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WATER SUPPLY OF SUPERIOR



PUMPING STATION OF SUPERIOR WATER, LIGHT AND POWER COMPANY

THE following description of difficulties encountered in securing a safe and popularly approved water, and the experiences had in overcoming them, is condensed from a paper read before the American Water Works Association by Wm. C. Lounsbury, Superintendent of the plant.

Superior, Wis., lies at the head of Lake Superior, and has a population of over 40,000, having increased to this from about 12,000 in 1890, and is still growing rapidly. The water supply is furnished by the Superior Water, Light and Power Company, the present corporation having purchased the plant from an older company in 1889. The original supply was taken from Tower Bay, a portion of the city's harbor, at a point very near the town; but this was afterward changed to a new intake about two miles to the southeast, but on the same bay. The extension of docks and pollution of the harbor later compelled the abandonment of this supply also, although attempts were made to purify the water by mechanical filters.

The present company in 1891 built a new plant, and in 1900 enlarged the building and machinery installation. The company carried a 24-inch intake pipe from the pumping station across the bay and a point which separates it from Lake Superior a 1,800 feet into the lake, the distance across the bay

being 4,350 feet and the point being 600 feet wide. From 1892 to 1897 this intake was used, but the dumping of harbor dredgings and pollution by sewage so added to the danger of typhoid and to the turbidity of the water that it was decided to endeavor to obtain a supply from wells.

These wells were driven on the point already referred to, known as Minnesota Point. This point is composed of a sandy soil varying in composition from gravel to fine clay, but about 50 per cent of the soil being retained by a 40-mesh sieve. Over a large portion of the point is a luxuriant growth of pines. It was thought that by driving wells into this sandy point, where no well would be more than 600 feet from either bay or lake, an inexhaustible supply of pure water could be obtained. Eighty wells were sunk to a depth of about 40 feet, and all connected to a header or main suction, a gate valve being placed between each well and the header. Four wells were 8 inches in diameter, and all the remainder were 6 inches. Each well carried a 12 or 14-foot length of Cook strainer. The wells were spaced about 16 feet apart, and when put down were from 40 to 60 feet from the edge of the bay. Since then, however, the shore line has changed so that most of the wells are now under water and the balance are very



CLEANING A WELL. PROTECTIVE PILING SHOWN

near the shore line. The header was connected to the same intake which had been used for obtaining water from the lake, and a valve was placed on this intake between the header and the lake. By opening this valve, lake water can still be used in an emergency.

After the system had been completed the water obtained was found to be far from desirable, because of the large amount of iron which it contained, about 1.7 parts per million. This iron supported a luxuriant growth of crenothrix, which spread throughout the city mains and formed deposits in them. The system is a direct pressure one, domestic pressure being 70 pounds, which, in case of fire, is immediately raised to 120 pounds. This sudden change of pressure and the opening of fire hydrants stirred up the crenothrix sediment throughout a considerable area and rendered the supply drawn from the house faucets very disagreeable. In addition, there was the customary deposit of yellow sediment after the water had been drawn from the faucet and had stood for a few minutes in contact with the air. This yellow color was similar to that previously experienced with the bay water, and led the citizens to believe that the old supply was still being used, or, at least, that the suction pipe leaked where it passed under the bay.

These conditions certainly justified a demand by the citizens that something be done to remedy them, and the company decided to endeavor to remove the iron. An extensive investigation was undertaken by three experts in 1899, both slow and mechanical filters being experimented with. Following this, the company employed Mr. Allen Hazen to design an iron removal plant, and such plant was constructed in the latter part of the same year. It consists of an aerating device, three covered concrete filters, each 67 by 100 feet, and a clear water reservoir of 350,000 gallons capacity. Water is pumped to the top of the aerator, from which it falls about 20 feet as spray through four successive perforated iron trays.

The results obtained from this plant were very disappointing. An analysis in 1900 showed a reduction of iron from 1.20 to 0.90 parts per million, and in 1903 a reduction from 1.50 to 1.10. Although the iron was not greatly reduced, however, there was a marked success in eliminating all traces

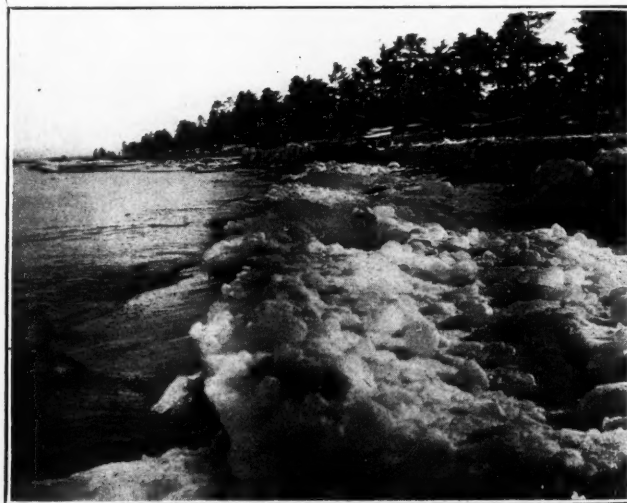
of crenothrix, and the city water did not deposit iron upon standing, and has given no characteristic iron trouble since the filters were put in operation. The color, however, has remained high, varying from 25 to 35. The use of potassium permanganate was tried, and did remove the color, but caused the filters to clog, and was also costly. The writer of the paper became superintendent of the company in 1906, and has been endeavoring since then to overcome this difficulty of high color. He believed that the difficulty was in some way due to aeration. The aerating device was enlarged without beneficial results, and in October of that year its use was omitted entirely, and the water was by-passed from the pump directly to the filters. Typical examples of the results are shown by the following, the aerator having been by-passed about 5 P. M.:

Hour		Raw	Filtered
4 P. M., Oct. 15.....	Color	20.	29.
	Carbon dioxide	10.0	4.0
	Iron	1.30	0.75
11 P. M.	Color	37.	16.
	Carbon dioxide	9.0	6.0
	Iron	1.30	0.40
4 A. M., Oct. 16.....	Color	35.	13.
	Carbon dioxide	9.0	8.0
	Iron	1.25	0.20

Analyses of the effluent made in November, December and March, when aeration was used, showed average colors of 32, 31 and 30, respectively, and an average iron content of 0.80 each time. Analyses in October, November, January and April, when the aerator was not in use, showed an average color of 14 each time, and average iron contents of 0.35, 0.30, 0.30 and 0.40, respectively.

The same results have been obtained frequently since then, the omission of aeration changing a colored effluent carrying from 0.8 to 1.0 part of iron into a practically colorless effluent carrying about 0.2 parts of iron. Unfortunately, it does not seem practicable to operate continuously without the aerator, since the quantity of precipitate is then so great and it is of such a sticky nature that the filters clog and require cleaning more than twice as frequently as when the aerator is in service. The explanation of this is undoubtedly that given in the paper presented before the American Society of Civil Engineers early this year and abstracted by us in our issue of Feb. 3d. The crude water at Superior is about 75 per cent saturated with oxygen, and the additional aeration is, as explained in that paper, injurious rather than beneficial. It might be possible to overcome these conditions by different chemical or mechanical treatment, but other difficulties in connection with the present system, to be explained, decided the superintendent to endeavor to devise a means of overcoming all of them.

The difficulties referred to are caused by the severe winters



ICE FORMATION IN FRONT OF WELLS

at Superior. As the waters wash up on the beach during the earlier winter the water sinks into the sand and freezes. The lake itself, however, does not freeze until late in January or early in February, so that during the first half of the winter the wash of the lake on the beach and the spray from the surf freeze and build a bank of ice along the shore. When the lake finally freezes, ice forms to a depth of 20 inches, and as the lake water does not reach this depth for a considerable distance from shore, the ice forms solid to the bottom for 40 to 50 feet from the beach. This forms a solid, thick bank of ice around and over all the wells, thus not only preventing access to them for any purpose, but also preventing the access of water to the beach within a considerable distance of the wells, compelling it to pass for a greater distance through the sand, and consequently diminishing the supply. This diminution is further increased by the lower temperature, which is calculated to increase the sand friction to such an extent that from this cause alone the flow would be 34 per cent less than the summer flow. Under these conditions the ground water level at the wells is so lowered by the draft upon it that air is drawn into the system, causing further trouble. To overcome these conditions, trenches are dug through frost and ice to free water, and the bay water, backing up into these trenches, reaches the sand near the wells. To keep these trenches free of ice and continually below the frost line involves considerable labor. In April of this year frost was found to extend into the sand three feet below the water level at a point which is now 15 to 20 feet out into the lake.

Superintendent Lounsbury sums up the problems which he desires to solve as follows:

1. To deliver a colorless supply.
2. To increase the winter supply.
3. To do away with air troubles.
4. To be independent of ice conditions.
5. We wish to learn the most advisable method of extending our system as the growth of the city demands it.

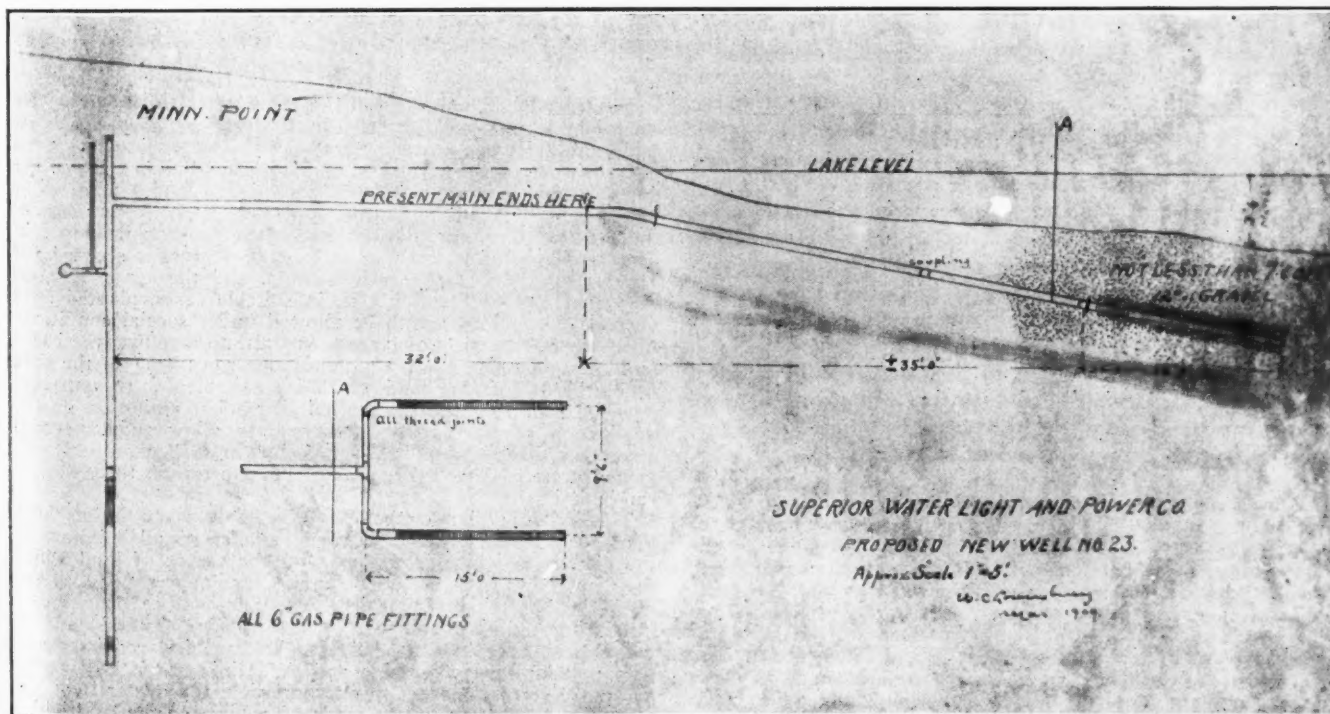
Mr. Lounsbury believes that he has solved all of these by a new type of construction. "What I propose is simply this: Construct additional wells, not on the beach, but out in the lake itself. Last December we placed such a 6-inch well 70 feet out from the system and connected it to the suction main through one of the old wells. This new well gave a water



TRENCHING TO WELL THROUGH ICE AND FROST

entirely different from that of our old wells. We got a good flow of clear, crystalline, iron-free water."

He proposed to construct a series of such wells, but to make the points of these assume a horizontal rather than a vertical position, the entire point to be covered with at least 7 feet of sand. This will give it a uniform sand covering over its entire length; the point will be under free water at all times of the year, as the bed of the bay is not likely to be clogged by sediment and the ice does not reach to that depth. Also free air cannot reach the well points in such a location. These points would be placed in pairs about 9 feet 6 inches apart, the two being coupled to one suction pipe or horizontal well. The well points would be laid rather than driven, and would be surrounded with 12 inches of gravel. This method of construction, the writer believed, would solve all of the problems stated by him.



VERTICAL SECTION SHOWING PROPOSED HORIZONTAL WELLS UNDER LAKE

GERMAN TOWN PLANNING

Laws and Policies in Force—Plans Include Street Lay-out, Water Supply, Drainage, Character of Buildings —Donating Land for Streets

Two or three months ago leading members of the Housing Reform Council, of England, made a tour of the towns of Rhenish Prussia and Bavaria to study the methods and results of the system of town planning which has been carried on by these and other German cities during the past fifteen years or so. The tour will probably result in the publication of a comprehensive report and many scarcely less lengthy articles by the members, all of which will make interesting reading, but so voluminous that the average citizen cannot find time for the perusal of a tithe of it. It seems unfortunate that all such reports, which would be conducive of so much benefit if their influence could be made more widespread, should not secure general recognition and attention through the authoritative preparation of brief abstracts giving the salient conclusions and brief synopses of the information obtained. Like the literature from the International Road Congress, letters and reports from this tour are already filling the pages of English journals and will probably continue to do so throughout the summer.

The information given by these may in general be divided into two classes: statements of the laws and methods under which, in general, town planning has been carried on, and impressions as to the desirability of the introduction of such methods into England. Concerning the former there should, of course, be no differences of opinion, although there may be differences of perspective determined by the point of view. Concerning the latter, the various statements which we have seen seem to agree in one point, namely, that certain features are worthy of trial in England and that certain others are not; although there does not seem to be any unanimity of opinion in the classification of such features.

One visitor found the new parts of these German cities to be so formal and machine-made in appearance as to lack entirely the charm and personality to be found in older parts of most cities of Germany, and in fact of all Europe. Several found also that, in the desire to make the sections devoted to laborers' residences fully as attractive in most respects as those occupied by the wealthier citizens, many German cities have devoted so large a space to streets and other non-producing areas as to make the necessary cost of building lots higher than was desirable; thus defeating the object in view and compelling the less fortunate laborers to remain in the undesirable older sections of the cities. Several of the committee agree that the idea of blocks of houses, which are found in the German cities, is by no means so desirable as that of the detached dwellings aimed at in the latest town planning schemes of England, and also in this country. All seemed to be impressed with the great power possessed by the German municipalities to carry out the most paternal schemes without running into any snags either of law or popular opposition, such as would surely be encountered in England and even more certainly in this country.

GERMAN PLANNING LAWS

The policy and laws in force in Germany were described in a paper presented by Mr. Frederick Law Olmsted before the International Conference on City Planning, held in Washington, from which description we quote the following:

The ultimate purpose of city planning is not to provide facilities for certain kinds of transportation or to obtain certain architectural effects, but to direct the physical development of the city, by every means of control within the power of the municipality, in such a manner that the ordinary citizen will be able to live and labor under conditions as favorable to health, happiness and productive efficiency as his means will permit. This broad ideal of city planning has been worked upon for 15 or 20 years with the diligent practice and technical erudition with which the German is apt to pursue his ideals, and has been of influence not alone in Germany, but in many other countries, particularly among the keen and progressive democracies of Switzerland. A city plan in Germany includes in one unified project not only a surveyor's plot for the laying out of streets, etc., but the whole code of building regulations, health ordi-

nances, police rules and system of taxation in so far as they have a direct influence upon the physical development of the city.

The following are some of the provisions of the law respecting the preparation of building plans:

If a district, which practically is still unbuilt on, is to be laid open for building, as a rule a building plan must be prepared for it by the local authority. A building plan may also be prepared for a district already built on.

A building plan must comprise the necessary plans and regulations by which building in the district is to be governed.

Perhaps nothing will give a more definite idea of the scope of a German city plan than to enumerate the provisions of Section 18 of the Saxon law, which directs that in the preparation of building plans attention must be paid to the claims of security from fire, of the public traffic which is to be expected and of health; to a suitable supply of water and to drainage; to the position and development of the place, and to the need for dwellings corresponding to the local conditions, and also to ensuring that streets and squares shall not be disfigured. In this relation special attention must be paid to the following points: (a) The position of the blocks of buildings, as well as of the lines of streets and the building lines, must be adapted to the configuration of the land, and must be such that an adequate supply of sunshine will be secured in occupied rooms; (b) the dimensions of the various blocks of buildings must be such as to allow of the proper utilization of the ground for building; (c) the width of streets and footpaths is to be decided by the requirements of local traffic, and must be suitably graduated in accordance with the nature of the streets as main streets, secondary streets or streets only used for dwellings. In the case of streets for which through traffic may be expected eventually, especially street railroad lines, and where a widening of the street must be anticipated, there must be front gardens of suitable depth on both sides restricted against building; (d) gradients in the streets must be distributed as evenly as possible; heavy gradients, deep cuttings and embankments, as well as inordinately long, straight lines of streets, must be avoided as much as possible; (e) in determining the direction of streets care must be taken to provide short and convenient connections between streets and with the chief centers of traffic; (f) open spaces and public shrubberies must be so arranged in respect of size, position and number as to be useful in relation both to convenience of traffic and to general welfare. Sites for churches and school buildings, as well as public playgrounds and recreation grounds, must be provided in sufficient number; (g) in deciding what shall be the kind of building allowed, and as to whether factories and workshops shall be allowed, the existing character of the district, or part of a district, and its needs must be taken into account. In any case, care must be taken that continuous lines of building, so far as they are not excluded by the local building regulations, shall be interrupted in sufficient measure by streets of open building, and that in the outer districts a suitable restriction of the density of building and population occurs; (h) front gardens, except when they are provided only in view of a future widening of the street, must have a depth of at least 15 feet; (i) the number of stories to be allowed must be decided according to the character of the place and the width of the street; (k) the necessary courts and gardens in the interior of a block of buildings must be secured by regulations respecting their area and position, and, if necessary, by fixing back-building lines; (l) so far as any building at all is permissible on land behind buildings it must be made to depend on the size of the court or garden, and as a rule be allowed for dwelling purposes only if a supply of light at an angle of at least 45 degrees is secured for all the windows of the back-building, and the space between the front and back-building is, in suitable cases, planted as a garden. Exceptions are to be allowed under special conditions in the central districts of large towns. In no case may the back-buildings of a street form a continuous row; (m) in the case of blocks of building land which are suitable for the purpose, power can be reserved for the building police authority, on the application of the parties interested, to allow supplementary streets or dwellings to be formed, but in such cases only detached or semi-detached houses of not more than three stories can be built.

The building plan or building line plan, when it has been once decided on, is authoritative in relation to all buildings in the district to which it applies. But the owner of land which the plan shows to be intended for use for public traffic may use it till he has to surrender it to the community, for purposes other than building, and may enclose it with a suitable fence. In particular, so long as the town has not declared its readiness to take over possession and the Ministry of the Interior has not given its consent to expropriation, the owner is at liberty to make changes in the mode of cultivating the land which increases its value. If later the land is expropriated or the owner has to give it to the town without receiving payment, compensation for the increase of value must be paid him.

The plan of the property owner donating land for public highways is that found in a large number of American cities; but as carried out here it frequently works out with apparent unfairness in that certain owners are required to devote for street purposes a considerably larger percentage of their land than others owning adjoining property. In Germany this dedication of land for public purposes without any recompense is the general rule, and this includes not only streets but also other areas of land properly to be regarded as necessary for public uses, such as playgrounds, sites for schools and other public buildings. A method is generally in force in that country, however, by which this does not fall unfairly upon certain shoulders, but elaborate and detailed rules of procedure are laid down in the laws for distributing the cost of this among the owners of the district; that is, the owners of the land actually taken are recompensed for this either by cash payments or by the allotment of equivalent land in the vicinity; this cash or land, as the case may be, being contributed by the owners of other property in the immediate section benefited by such improvement.

This may seem a plan very difficult to carry out and entirely foreign to American practice; and yet the same ideas are found in other lines of municipal development in this country. For instance, in many cities assessments for the construction of sewer systems are levied by districts, each property owner paying for a part of the main sewer, whether it passes in front of his property or not. Also in many cities street plans are adopted covering unimproved private property, which property can be opened up only in accordance with such plans—or more properly the streets laid out on such property will be accepted as public highways only when so laid out. It would seem but a step further, and a logical and desirable one, to adopt some such procedure as this: When the property owners of a certain district, or a majority of them, are desirous of laying out such lands into building lots they should apply to the municipal authorities for an official street plan for such sub-division. This plan would then be made entirely regardless of property lines, but so as to be best adapted to the topography and the general scheme of the city plan. The land devoted to public purposes such as streets should be paid for at a uniform rate, the funds for such payment being assessed upon all the property in the territory under treatment. Should it be argued that properties having the greatest frontage on main thoroughfares should pay more per unit of area than the others this might be met by a scheme for further assessing each property in accordance with the benefits received by it from the proposed street location, such assessment being then divided among all the owners in proportion to area. These assessments and credits would, of course, be largely a matter of bookkeeping and only the balances be the matter of cash transactions.

With the illustration before us of the incredibly gross abuses of the land appraiser system in New York City, it may seem rash to propose any such scheme to be carried on by municipal agents; but we hope and believe that the exposing of and public protest against these abuses will result in a general adoption in New York City, and elsewhere as well, of more rational, just and economical methods of deciding these questions of land values and of damages and benefits.

SEWER WORK IN PORTLAND

UNUSUALLY complete reports of sewer construction are given by Mr. Bion Bradbury, Commissioner of Public Works of Portland, Me., in his report for 1908. Each section of sewer constructed is described separately, but concisely, as to its size, depth, material excavated and the itemized cost of excavation, laying, materials, etc. The cost of excavation, in trenches from 6 to 18 feet deep, illustrate that cost per yard increases with depth; one trench averaging 6.4 ft deep costing 20 cts a foot while another averaging 18 feet deep cost \$2.25 a foot, or about 4 times as much per cu. yd. One sewer, in quicksand, and 11 feet deep on an average, cost an average of \$4.80 per lineal foot

for labor alone. Manhole steps cost 28 cts each; iron frames and covers, \$10.55 each (at 3½ cts per pound). Laying 8- to 12-inch pipe cost generally 4 to 6 cents per foot. Building 33 catch basins cost an average of \$52.83 each for labor, \$13.80 for brick; \$19.83 for stone and castings; \$6.56 for pipe; \$4.28 for cement, and \$2.70 for carting and miscellaneous; a total of \$100 each.

SEWERS STOPPED BY POPLAR ROOTS

Editor MUNICIPAL JOURNAL AND ENGINEER,
New York City.

DEAR SIR—Can you refer me to any articles that may have been published in your valuable magazine on the subject referred to in the enclosed article and the names of any places that you may have knowledge of where they have experienced similar difficulty?
Very truly yours,
C.

The enclosure referred to was a letter to the local paper from the Burgess of the town, calling the attention of the citizens to an ordinance recently enacted making it unlawful to plant or maintain any poplar trees on any street along which the sanitary sewer runs, and referring to another ordinance which had passed first reading, making it unlawful to plant or maintain any poplar tree within 100 feet of any public sewer. Each ordinance provides a penalty of fine or imprisonment for its violation, the second also providing that after a conviction the trees shall be removed by the borough at the expense of the owner. The reason for these ordinances was that the sanitary and storm sewers were being injured and destroyed by the roots of poplar trees, which enter and choke up the sewers, these being in many places completely filled by roots, and the borough having already expended several hundred dollars repairing such damages. The Burgess makes the excellent suggestion that each property owner, when destroying a poplar tree, plant two or three trees of other varieties in its place.

THE MUNICIPAL JOURNAL has, from time to time, published several items in the Municipal News columns telling of similar stoppages of sewers by poplar and other trees. Elm tree roots have been known to enter sewers in the same way. In our issue of Dec. 25, 1907, reference is made to a similar condition in an Ohio city, where a demand was made that all poplar trees in the city be destroyed; and it was further pointed out that a poplar or other tree could not so stop a sewer unless there was already an opening from the exterior into the sewer through which the first rootlet could enter. In other words, only defective sewers would be damaged by trees in this way. The remedy would therefore seem to be to make the joints of the sewers tight. If they are not tight it is quite probable that there will be a pollution of the soil by sewage or a leaking of ground water into the sewer, or both. The infiltration of water may be seriously objectionable in case the sewage must be purified.

If the only objection to poplar trees were this tendency to stop sewers, the remedy of repairing the sewer would probably be preferable to removing the tree.

But there seem to be other objections to poplars. In a paper before the American Society of Municipal Improvements last fall, Mr. Solotaroff, Superintendent of the Shade Tree Commission of East Orange, N. J., stated that the poplar is usually prohibited in cities having Shade Tree Commissions; that its only advantage is its rapidity of growth, but that it soon becomes too large for an average street, and the roots not only attack sewers and drains, but are so large and powerful as to lift sidewalks and throw curbing out of line. In discussing this paper, Mr. Horace Andrews stated that, aside from the objections just mentioned, a cottony substance blows from the tree in the spring, making it a public nuisance, and the Albany Board of Health long ago condemned the tree as such and ordered all those in the city to be cut down.

It would seem, therefore, as though the Burgess of the town above referred to was justified in his effort to have all poplars removed. But we trust that he will also profit by the indications which this trouble gives that the sewer joints are not as tight as they should be.

POUGHKEEPSIE STREET CONSTRUCTION

Policy of Board of Public Works—Permission Necessary for Laying Curbs, Gutters and Sidewalks—Curbing, Kind and Location—Materials Used for Gutters and Sidewalks—Prevailing Prices

THE Superintendent of the Board of Public Works of Poughkeepsie, N. Y., Mr. Robert J. Harding, has issued a pamphlet the idea of which is, we believe, somewhat unique. In a letter accompanying this he says:

This little pamphlet contains the rules and regulations of the Board of Public Works of the city of Poughkeepsie. These rules were hurriedly arranged to meet a sudden growth of the city and to rescue it from a general appearance of untidiness. The specifications are not complete, the standards are limited, but it is our desire to make them complete and we want you to help us and we in turn will help you.

Read the pamphlet through, write me any suggestions you have to make, send me your specifications and designs and I will send you the results in a neat and compact form.

The illustrations here used are primarily to demonstrate what others are doing and to give our people an idea of municipal improvements. You are requested to add to this collection, as we expect to do. Your honest criticism is desired.

The illustrations, which are 19 in number, show curbs, gutters, sidewalks, and other details of street construction and ornamentation in a number of cities, mostly in Ohio and New York; also detail plans showing the nature of the work done in Poughkeepsie. The pamphlet is very attractive in form, and contains specifications for sidewalks, curbs, etc.; also a statement of the policy of the Board, which discusses so well a number of points relative to street work that we give it entire. We have no doubt that Mr. Harding would be glad to have any of our readers take as a personal request the remarks in the letter above quoted.

Except for the specifications, which are omitted, the pamphlet reads as follows:

STATEMENT OF THE POLICY OF THE BOARD

In compiling these rules and regulations and specifications for sidewalk, curb and gutter construction and the materials used therein, the Board has in mind the establishment of standards to be followed throughout the City, and thus prevent the permission of construction with any material which happens to be convenient and in a manner temporary and unsightly. It is the Board's intention to carefully inspect all work done under these rules and regulations and specifications and see that the property owner has good material, good workmanship, and at a fair and reasonable price.

The rules and regulations or specifications do not apply to the repairing of sidewalks or curbs or gutters where there is danger to the public, where unexpected sinking or upheaval of the stones occur and where immediate attention of the property owner is necessary to prevent accident. Neither are they intended to apply to outlying districts where no general street lay out has been established, but only apply to permanent construction and to alterations.

It is the desire of this Board that a definite line of improvement shall be adopted relating to sidewalks, curbs and gutters and finally have uniformity of construction on each street of the City.

Property owners desirous of improving the sidewalks, curbs and gutters, by applying to the Board of Public Works may obtain the information necessary for the permanent improvement and obtain the grade and alignment for the same.

RULES AND REGULATIONS

1. Permission must be obtained from the Board of Public Works to set new curb or gutters, reset old curb and gutters, to lay a new sidewalk or relay an old sidewalk. However it is not necessary to get permission to repair sidewalks, curbs or gutters to the extent of keeping them in a safe condition.

2. The style of construction in the above mentioned cases shall be uniform on each side of the street for each block.

3. Only sidewalks of a permanent nature, such as cement, tar, stone or vitrified brick, will be considered by this Board.

4. All work shall be done to the grade and alignment established by the Superintendent of Public Works.

5. The Board will furnish special designs for drive-ways.

6. In the case of a property owner desiring to make improvements in advance of a general street improvement, the Board, upon granting a request to a property owner to set new curb and gutter, reset old curb and gutter, lay a new sidewalk or relay an old sidewalk, will at the same time furnish plans if necessary and specifications to be followed in doing the work for which the permission is requested. The one receiving the permit may make such arrangements for having the work done as he wishes, but to the satisfaction of the Board of Public Works. The Board will inspect the work and see that the specifications are carried out.

7. In the case of a general improvement of a street or section of a street where the improvement is petitioned for or ordered by the Board, the Board will consider the desires of the property owners as to the material to be used. When the nature of the improvement is decided the Board will attend to the execution of the work according to its plans and specifications and assess the cost by the method presented in the charter.

8. The person receiving a permit agrees to comply with the conditions stipulated in the specifications and will uphold the inspection of the Board.

CURBING

A curb is placed in a street to mark the division between the sidewalk and roadway and is especially necessary in all streets having a block or brick pavement. It keeps the water confined and protects the sidewalk.

The location of the curb lines are of very much importance and before any definite conclusion is made careful study should be made of traffic conditions. In purely business sections there has always been a tendency toward wider and wider roadways, so much so that in many cities in the very heart of the shopping districts there is congestion on the sidewalks. On 23rd Street, New York, in the shopping district between Fifth and Sixth Avenues, are examples of very wide sidewalks; also on 42nd Street. It is generally desirable in business sections to have wide sidewalks and wide roadways. The residential portions are very different and should be treated from an entirely different viewpoint.

The designers of many of our cities have had no definite ideas as to the location of business and residential sections, and as a result we have conditions of curb line locations and street widths that might well be reversed. Residential sections do not require wide sidewalks to accommodate the public, neither do they require wide roadways, so that wide streets have been taken advantage of in parking their roadways from the curb to the flag or walk, thereby narrowing the roadway and giving place for a lawn and row of trees on each side. This takes the roadway further from the residence, makes sprinkling more effective, is cooler and gives a good balance to a street's general appearance.

In business sections this common rule has been followed, "Two-fifths of roadway in sidewalks and three-fifths in roadway." In residential sections one half for each is common practice. A wagon seldom occupies more than nine feet in width, eight being the ordinary over all width. Eighteen feet between curbs will permit two wagons to pass with ease. Twenty-seven feet allows a wagon to stand on one side and two to pass. Thirty-six feet will allow a wagon at each curb and two to pass between.

Where the pavements are of gravel or macadam, curbs are not necessary unless it is a business street, or partially so. Purely residential streets with a pathway of trees and grass on either side of the roadway do very nicely with the simple flat gutter of cobbles or concrete.

Stone curbs are not used as much as they were, concrete taking their place. It has been found that concrete when properly laid gives a more regular appearance and is much cheaper. A concrete curb and gutter combined is perhaps as handsome and as reasonable a combination as can be used for such a purpose.

A concrete curb when used in a business section, where wagons are constantly running against it and grinding and chipping the edges, should be reinforced and have a wearing edge of steel. When such cases arise it is better to use the very hardest and toughest stone available.

A stone curb of softer composition is often used in place of concrete on residential streets when a permanent pavement is to be laid, because such material can be easily sawed into exact shape and be given a uniform finish and at no great expense. Of this class of stone that most commonly used is sandstone, particularly the Ohio sandstone, which is very soft when quarried, but becomes hard with age and slightly discolored. This stone, cut into pieces 5 inches by 16 inches with a bull nose and tooled face, makes a street look its best. Medina sandstone is used for curbing to a very great extent, especially in Western and Central New York.

In streets of heavy traffic the blue stone or granite is much more serviceable. In such cases the stone is not sawed from the quarry and tooled faces are not obtained. The curb can be gotten out in regular and exact shape and with a very good finish, but it is quite expensive. The seconds and thirds from blue stone quarries make a serviceable curb, but do not present a regular or pleasing appearance.

Concrete curb as well as stone curbs, whether or not the stone curb has a concrete foundation, sometimes has a sub-foundation of soft coal cinders, but this is necessary only in impervious soil. Such material furnishes proper drainage for the subgrade of the roadway and sidewalk and prevents the frost from displacing the curb as well as the sidewalk.

To set a stone curb without some foundation or some pro-

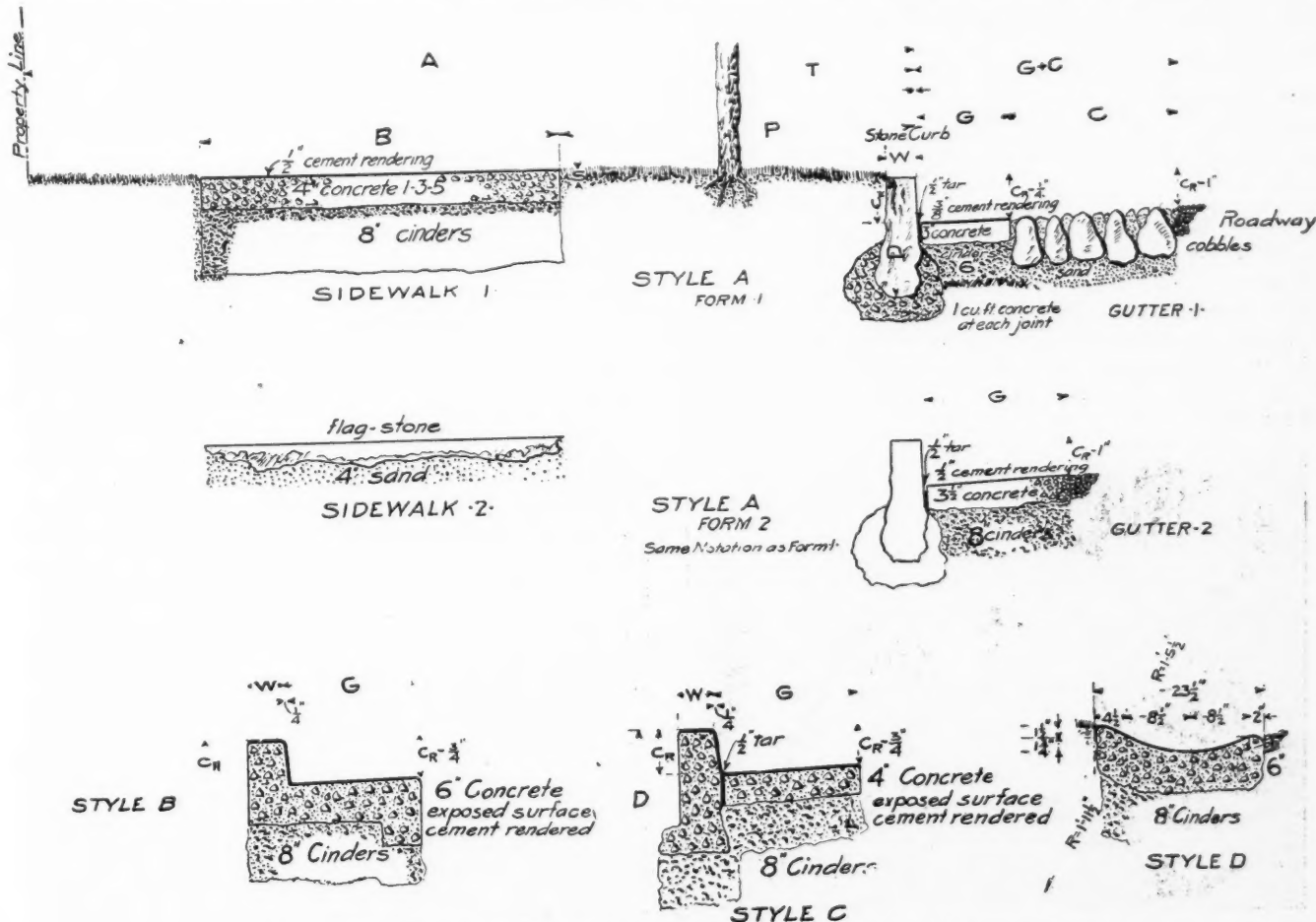


SOLUTION OF SIDEWALK GRADES

Medina sandstone curbs, cement walks and steps, Syracuse, N. Y.

tection from overturning besides earth being tamped about it, is not good practice and should not be tolerated. One can easily tell whether the curbs of a city are properly laid by a glance over its streets. While the initial cost may be more, when laid properly it is the cheapest in the long run and much more satisfactory.

An inexpensive method for setting curb, and one which gives fairly good results, is the placing of one cubic foot or more of concrete about each joint. This seems to furnish sufficient bond to keep the curb in alignment and prevent the overturning or dipping. The added expense should not be over eight cents per foot. The best method is to place a concrete foundation about the curb throughout; the concrete on the cinders, with proper provision made for the drainage of the cinders wherever a sump may occur. This would probably add from 25 to 30 cents per foot to the curb setting.



GENERAL SIDEWALK AND GUTTER SECTIONS USED AT POUGHKEEPSIE

Dimensions vary with street widths

GUTTERS

Gutters are placed where the concentrated flow of water from the drainage of a street occurs. Of course this is at the curb. The gutter is placed to protect the roadway at the curb from erosion. It is very evident that the steeper the grade of the street, the more necessary a gutter becomes. A gutter, however, has another function to perform and that is the resistance to heavy vehicles against the edge and the tendency to displacement.

In roadways of gravel and macadam where gutters are necessary, cobbles and flagstone strips have met the condition very well, but at present there is a tendency toward the use of concrete for this purpose. In concrete any shape may be procured and some very pretty gutters can be made so as to do away with the necessity of a curb.

The combined concrete curb and gutter is very often used and when properly constructed gives a most pleasing appearance and a feeling of permanency.

SIDEWALKS

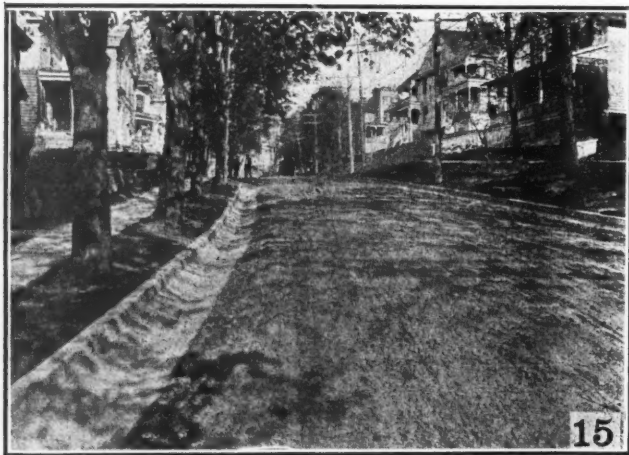
Stone sidewalks or flag walks have been universally used for years; so much so in this locality that it is quite generally believed that bluestone is the only stone that can be used for sidewalks. It is unquestionably the toughest, but it does not give as regular and nice appearance as do some of the sawed flags of other kinds of stone.

The practice of stone walks seems to have suffered of recent years; so much that in some sections walks of stone are not permitted, concrete walks having supplanted them.

Stone sidewalks are surely much better than poor concrete walks and there are certainly a large number of very poor ones. Over-confidence in the mixture of stone, sand and cement and ignorance of the necessity for proper proportions is probably accountable for poor concrete sidewalks. It is not unusual to see concrete sidewalks uneven, warped, cracked and cleaved and some wearing out in a very short time. The same with stone walks, some are uneven making places to stub one's toes, irregular in alignment, some cracked into a dozen pieces presenting in all a most untidy appearance. The reason for such stone walks is that they are not properly bedded, the stones are not thick enough and they are not the fair run of the quarry, nor properly squared. It should not be understood, however, that it is impossible to get a good flagstone walk.

Cement or concrete sidewalks are easily made and at reasonable cost, but care should be used in the selection of the materials which go to make up your walks, care in the mixture of the materials as to proportion, and thoroughness and great care in its treatment while setting is taking place.

Sidewalks generally have a slope of $\frac{1}{4}$ inch to the foot toward the curb; sometimes in parks or where the sidewalk is wide enough, instead of a side slope, the walk is made to crown in the center.



HOLLOW CONCRETE GUTTER, ITHACA, N. Y.

Adapted to carrying large volumes of water on steep grades

Coloring matter should not be used in a cement sidewalk, as it fades and does not add to the quality of the finishing coat.

Driveways are generally specially designed and are marked across the surface with parallel lines one inch apart, by the use of a line roller.

NOTE

The Board will protect the owners of property from exorbitant charges due to following out its orders and specifications upon being requested by said property owners, if in their opinion estimates of contractors are exorbitant, by doing the work directly through its sidewalk department.

The prices prevailing in Poughkeepsie for curbs, gutters and sidewalks are as follows:

Quarry cut Ulster County Bluestone curb, 4x16 set in dirt, 40 to 45 cents.

With 12-inch gutter and 2 feet of cobbles in dirt, 80 to 85 cents.

For cut surface uniform 5x16 Bluestone, set in concrete, a cubic foot at each joint, 60 to 70 cents.

With 12-inch flag cut uniformly and two of cobbles set in sand, \$1.

Set uniformly in concrete a cubic foot to each lineal foot, \$1.25.

Berea sandstone, 5x16, machine tooled, set in concrete full length, 80 to 95 cents.

Cement concrete curb, 5 inches wide, 30 to 50 cents.

Combined cement concrete curb and gutter, 50 to 65 cents.

Cement sidewalks with cinder base, 12 to 17 cents per square foot.

Flagstone walk, 12 to 20 cents per square foot.

DEFENSE OF SEPTIC PROCESS SUITS

On May 29 the Association for the Defense of Septic Process Suits (which was organized some months ago for the purpose of fighting the Cameron Septic Tank Company in its efforts to prove infringements and collect royalties, as described in previous issues of the MUNICIPAL JOURNAL) met at the office of the Secretary and Treasurer in New York and adopted by-laws. These are practically but a formal statement of the plan under which the organization had already been operating; but the fact that it seemed desirable to perfect the organization and place it upon a more permanent footing would indicate that it is its purpose to continue the opposition to the Cameron Company indefinitely. The objects of the association are stated to be: To aid the village of Saratoga Springs in determining the measure of damages due the company for the use of the septic process (the courts having already affirmed infringement); to defend any suits for royalties brought against any members of the association; to resist efforts to secure an extension of the life of the Cameron patent (which expires this year); to collect data as a basis for giving advice to members which will enable them to so operate tanks as to avoid infringement. Finally, to assist members in the adjustment of damages where infringement is affirmed by the courts.

The members are divided into three classes: municipalities, private companies or individuals owning or operating septic tanks, and individuals not owning or operating septic tanks. The last class is not subject to assessment, but the first two are to be assessed when necessary, according to a stated schedule. These assessments are intended to cover the cost of defending suits from time to time as such suits are brought, and for resisting the extension of the patent. The affairs of the association are to be managed by an executive committee; and an executive counsel is to act for the association in all legal matters, a consulting counsel also being employed in cases of litigation.

The President of the society is F. Herbert Snow, Chief Engineer, State Health Department of Pennsylvania. The Secretary and Treasurer is Geo. A. Johnson, of New York City. The Executive Committee consists of Messrs. Johnson and Snow and seven other engineers, including H. M. Herbert, Chief Engineer of the New Jersey State Board of Health, and R. Winthrop Pratt, Chief Engineer of the Ohio State Board of Health. The Patent Committee is George W. Fuller, of the firm of Hering & Fuller, who is also the consulting engineer of the association. The Executive Counsel is George W. Rightmire, of Columbus, O., and Charles L. Sturtevant, of Washington, D. C., is the Consulting Counsel.

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Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

JUNE 30, 1909

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Septic Process Patents

In another column is given a synopsis of the by-laws adopted by the Association for the Defense of Septic Process Suits, and a list of the officials. It will be noticed that these include the engineers of the Health Departments of three States—Pennsylvania, New Jersey and Ohio. One of the purposes, as stated in the by-laws, is to assist cities in using practically the septic process without the payment of royalties to the Cameron company. That State officials and municipalities should combine in an attempt to evade the Federal law seems to us unfortunate. We believe that the courts have misunderstood the technical principles involved, and that they should have declared the Cameron patent invalid. But they have sustained it and de-

fined its provisions, and the company is, therefore, legally entitled to a reasonable royalty; and it remains discretionary with each city to employ septic tanks and pay the royalty or to use some other method of preliminary sewage treatment.

We feel very certain that the Association has no intention of doing any illegal thing, and, moreover, that the members believe themselves justified in this evasion because they look upon the collection of royalties under the decision as an injustice. But evasion of the law is little better than breaking it; and the use of wealth and superior intelligence for this purpose is a bad example to set to the less fortunate who have neither, but who feel themselves justified by such evasion in the only alternative they are capable of—downright disobedience.

To the other aims of the Association, such as resisting an extension of the life of the patent and assisting in the defense of suits for infringement, no exception can be taken so long as the efforts are confined to obtaining the decisions of the courts. It is the endeavor to evade such decisions that we deprecate.

Civic Committee at Grand Rapids

THERE has been in existence for some months in Grand Rapids, Mich., a Municipal Affairs Committee of its Board of Trade, which contains 140 members divided into eight sub-committees; these sub-committees being further divided into special committees of from three to five men each, to which are assigned special subjects for investigation and study. Each of the sub-committees meets once a month, when its special committees report. Among the subjects studied by the sub-committees in April were the securing of an old county fair grounds as a juvenile detention farm, and a study of the fire insurance problem. One committee conferred with a special senate committee concerning home rule bills for Michigan cities. Another considered the matter of merchants sweeping their sidewalks during the day time without first sprinkling them. Another endeavored to secure the extension of a park system in various directions. Other committees are endeavoring to obtain more street signs, to advertise the city throughout the State, to secure a better oversight of the city's shade trees, etc. Altogether this committee of the Board of Trade seems to occupy practically the same position as do civic societies, municipal leagues and similar organizations in other cities.

Santa Monica's Municipal Pier

THERE has just been completed for the city of Santa Monica, Cal., a pier extending 1,600 feet into the Pacific, the chief purpose of which is to carry to deep water the sewer outlet from the electrolytic sewage purification plant described a few weeks ago. As it would add little to its cost to make it serve for pleasure also, it was decided to make such additions as would serve this end. An asphalt floor has been provided and an iron railing along each side; also conduits for carrying gas and electric wiring, and pipes for a water supply.

The teredo, or "ship worm," is active in these waters, and for this reason it was decided not to use wooden piles, but reinforced concrete piles were employed, the piles ranging from 14 to 72 feet in length, the smaller ones being 14 and the larger 22 inches in diameter. These piles were molded in an upright position near the site of the pier and allowed to season about three weeks before use. After completion and inspection, the piles were coated with one part of neat cement and six parts of water. Each pile was reinforced with from six to eight 3/4-inch to 1-inch steel rods placed 2 inches from the outside of the pile and tied together every 3 feet longitudinally with No. 14 wire. The piles were provided with a bulb point, and the lower ends of the reinforcement were splayed into the bulbs and the upper ends carried 28 inches above the head of the pile to mesh into the reinforcement of the girder and strut. Each pile contained a 2-inch water pipe in its center, furnished with a coupling in the head for a hose connection,



CONCRETE PIER AND FALSEWORK

water being forced through this hose in the sinking of the pile. (After sinking, these pipes were filled with cement.) Each pile was sunk between 16 and 20 feet into the sand. Each trussed bent was composed of three piles spaced 13 feet 6 inches between centers and capped with a reinforced concrete girder 35 feet long. The several bents were connected by a reinforced concrete strut in the line of each longitudinal row of piles. The bents were spaced 20 feet apart.

To protect the concrete piles against floating timbers or logs, each is enclosed in a steel jacket extending 3 feet above and 6 feet below mean low tide; these being coated with an asphaltic preparation.

The floor is 35 feet wide over all, with platform spaces at two intermediate points and at the end of the pier, each 40 feet long by 90 wide. The floor system consists of wooden stringers anchored to the girders, on which was laid a floor of 2-inch plank. Along the outer edges and flush with them

was nailed a 2 x 4 scantling, and the asphalt paving was laid up to and flush with the top surface of these, being 4 inches thick at the center. This pavement consists of a binder course $\frac{1}{2}$ inch thick at the edges and $2\frac{1}{2}$ inches at the center, and a wearing surface uniformly $1\frac{1}{2}$ inches thick. The construction in general was similar to that of asphalt pavement, refined California asphalt being used.

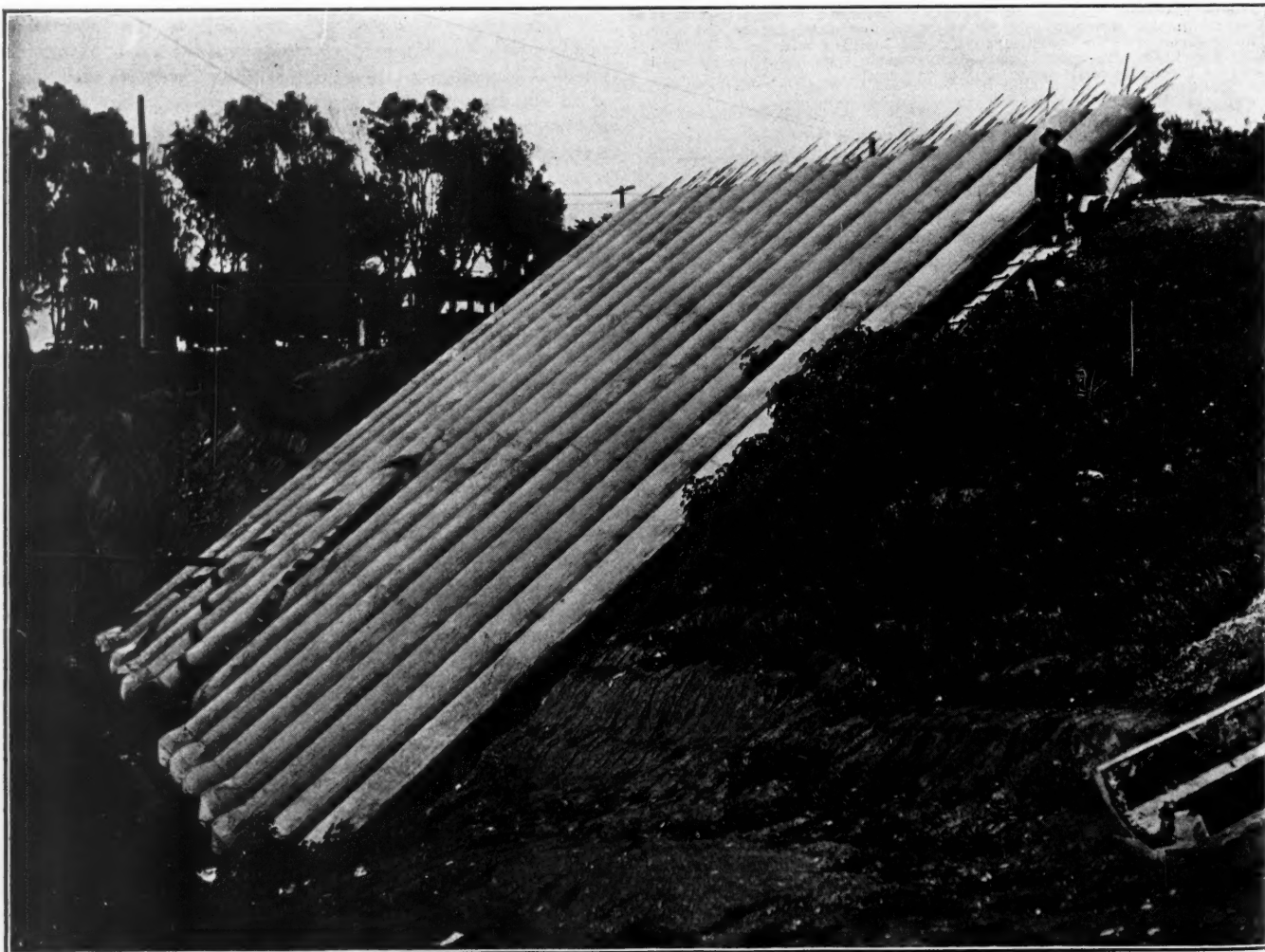
The outfall sewer supported by this pier is an 18-inch riveted steel pipe coated with an asphalt preparation furnished at the discharge end with a vertical extension 40 feet long, connected by a universal joint. This is suspended from the stringers by galvanized $\frac{1}{4}$ x 1-inch straps spaced 2 feet apart.

ELECTRIC STREET LIGHTING COSTS

THE following table illustrates the fact that the city paying the lowest price for street lights is not necessarily getting the most for its money. The best bargain usually results from a combination of low price per kw-hour and good illuminating medium.

DETAILS OF ELECTRIC STREET LIGHTING

CITY OR TOWN	Lamps and Watts	Hours per Year	Price per Year	Price per Kw. H.
Boston.....	500 Watt D. C.....	3,828	\$92.39	4.8 cts.
	500 Magnetite.....		103.54	5.4 "
Fall River.....	4 Amp. Mag.....	3,900	91.25	7.3 "
Cambridge.....	425 Watt A.C. Enc.....	3,900	90.00	5.4 "
Brooklyn.....	450 Watt D.C. Enc.....	4,000	100.00	5.6 "
Brookline.....	500 Watt A.C. Enc.....	3,828	124.10	6.2 "
Chelsea.....	425 Watt A.C. Enc.....	3,828	100.00	6.2 "
Haverhill.....	450 Watt D.C. Open.....	4,000	100.00	5.8 "
Lawrence.....	450 Watt D.C. Open.....	4,000	90.00	5. "
Lowell.....	500 Watt A.C. Enc.....	4,000	100.00	5. "
Lynn.....	500 Watt A.C. Enc.....	4,000	94.90	4.7 "
Newburyport.....	425 Watt A.C. Enc.....	1,700	73.50	10.2 "
New York.....	450 Watt D.C. Enc.....	3,950	100.00	5.6 "
Pawtucket.....	425 Watt A.C. Enc.....	4,000	112.50	5.6 "
Philadelphia.....	450 Watt D.C. Open.....	4,100	94.00	5.1 "
Providence.....	450 Watt D.C. Open.....	4,013	104.75	5.8 "
Woonsocket.....	450 Watt D.C. Open.....	4,000	146.00	8.1 "



CONCRETE PILES READY FOR CASTING. SECTION OF FORM AT LOWER RIGHT-HAND CORNER

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Cleveland Pavements Best in the Country?

Cleveland, O.—W. P. Blair, secretary of the National Paving Brick Manufacturers' Association, whose National Board recently met in Cleveland, and, incidentally, took a trip over the city's paved streets, said, in an interview, that Cleveland has the best paved streets in the country. He said that paving as a science had been developed there to a greater degree of efficiency than in any other city in the country. Pavements fourteen years old were found in excellent condition. Cleveland is fortunate in having an exceptionally good natural foundation. For the most part it is fine sand with some clay, but not sufficient to prevent the use of large quantities of water in consolidating the foundation.

Try New Method of Resurfacing

Columbus, O.—Miami avenue from Broad to Long street, which was macadamized a few years ago, has never given satisfaction, and will be repaired in a somewhat novel manner. The street will be scraped down to the solid stone surface, hot liquid asphalt will be poured over it, and then it will be surfaced with asphalt, as in the case of new streets, by the municipal asphalt plant.

New Road Law Gives City Increased Taxes

Des Moines, Ia.—According to the new road law, the County Supervisors have a right to order the County Treasurer to turn over to the City Treasurer one-half the taxes collected in a city of the first class in the event the municipality elects to spend the amount for improvements to streets which are continuations of main county roads, such improvements to be only within the corporate limits of the city.

Crusher Operated by Motor

Central Falls, R. I.—The new electric motor for the stone crusher has arrived and been placed in operation at the city stone yard. When the question of an appropriation for the repair of the engine and boiler at the stone crusher came up last winter it was estimated that about \$800 or \$900 would be necessary to put the apparatus in first-class condition. The proposition was afterward made to install an electric motor of sufficient power to operate the crusher, instead of the engine and boiler, and not only was the appropriation reduced from the figures estimated for repairs to \$500, the price of a first-class motor, but it was pointed out that in future the city would gain considerable by the difference between the cost of maintenance of the electric machine and that of the one operated by steam power. Those opposed to the new motive power said that the same results could not be achieved by electricity as by the use of steam, but from the experience so far at the crusher this idea has been dispelled and the officials say the results exceeded their expectations.

Think Asphalt Price Too High

Evansville, Ind.—The Board of Public Works has thrown out the bid of the Western Construction Company of Lafayette for the asphaltting of Main street on the ground that it was extortionate; the company was the only bidder, and asked \$1.97 a square yard for the asphaltting of Main street, which is already bricked and which has a good concrete base under the brick. The Western Construction Company is managed by Henry W. Marshall, of Lafayette, vice-president of the Evansville & Southern Indiana Traction Company. City officials say they believe the fact that only one bid was submitted is indication of an agreement among the asphalt companies to parcel out the territory. Mayor Nolan has sent messages to several of the other construction companies asking them to offer bids on the improvement; business men along the street favor asphalt instead of brick or any other material, but say before they will pay what they think an outrageous price for asphalt they will "go back to dirt roads."

Abolition of Grade Crossings in Lynn

Lynn, Mass.—Chairman George W. Wiggin of the special Grade Crossing Commission has filed in the Superior Court the final report of the Commission, with its recommendations and findings, upon the abolition of grade crossings in the City of Lynn. It is a voluminous document, making some 40 or 50 pages in printed pamphlet form, and covers every possible detail involved in the separation of the grades from West Lynn to Eastern avenue, and the changes in construction involved by the bridging of Commercial, Shepard, Blossom, Pleasant, Market, Washington, Central Square, Silsbee, Green and Chatham streets. Only one street is to be absolutely abolished—Silsbee street—but provision is made for that by the act recently passed on petition of Mayor Rich for a new street to take its place if the city of Lynn shall desire to build it after the work of raising the tracks is completed.

Contrast in Pavement Maintenance in Two Sections of City

Pittsburg, Pa.—An interesting contrast in the condition in which pavements are maintained is shown by the streets in the old section of Pittsburg and those in the former city of Allegheny. In Pittsburg many asphalt paved streets are in a neglected condition, containing many unsightly and dangerous holes. In the Allegheny section the streets are in a splendid condition owing to the efficient service of the municipal asphalt plant. An attempt was made more than a year ago to secure land for a large plant in old Pittsburg, and offers of 40 lots at prices ranging from \$12,000 to \$175,000 were received. While a committee was considering the advantage of the various lots the ordinance authorizing the purchase expired by limitation.

Market Street, Philadelphia, to Be Paved Soon with Wood

Philadelphia, Pa.—Although he did not hesitate to say that wood paving is contrary to his ideas, Mayor Reyburn told members of the Market Street Merchants' Association that the street from the Delaware River to the Schuylkill would be paved with creosoted wood blocks—and soon. Mayor Reyburn reluctantly admitted this at a dinner given by the association. Just how soon the work will be begun the Mayor did not say, and who will bear the cost is a question which is not settled. It was also said that the stretch between the car tracks would be paved with Belgian blocks, but it is doubtful if the Rapid Transit Company can be made to repave between the tracks, inasmuch as Market street was paved with granite blocks prior to the construction of the subway, and the company can only be required to repave the street with a first-class granite block pavement under the agreement between the city and the company.

Larger Powers for Highway Commissioner

Hartford, Conn.—According to a bill passed by the Legislature, the powers of the Highway Commissioner have been increased and his department greatly strengthened. He will have power to appoint a Deputy Highway Commissioner and eight engineers, and he is also authorized to fix their salaries. Other features of the same bill provide that the State will pay for trunk line building. The allowance for repairs is increased from \$25,000 to \$50,000 a year. The Commissioner is given authority to go to any town and order repairs made. The sum hitherto allowed for operating stone crushers has been \$2,500; this is increased to \$5,000. The amount of the salaries of the Commissioner's appointees will amount to \$65,000.

Market Square Will Have Plaza in Center

New Albany, Ind.—The Board of Public Works has awarded a contract for the improvement of the square in Market street, between Pearl and State streets. Owing to conditions imposed by the Scribners, Paul and Abner, when they founded the town, nearly 100 years ago, a space in the center, 30 feet wide and the length of the square, will not be improved for the use of vehicles, but will be converted into a granitoid plaza, raised about five inches above the surface of the brick street on either side.

SEWERAGE AND SANITATION

Inspectors Failing to Pass Examinations Are Discharged

Boston, Mass.—Superintendent of Streets Guy C. Emerson has ordered Deputy Superintendent Pratt of the Sewer Division of the Street Department to discharge his eight provisional inspectors after receiving information from the Civil Service Commissioners that they would refuse to approve the payrolls of those employees in the future, as the men failed to pass the required examination. Several of the men had been employed for a number of years.

Pure Water Made Columbus Healthiest City in Ohio

Columbus, O.—The City of Columbus is now one of the healthiest in the country. Health Department officials and physicians all attribute this to the pure filtered water. Last June there were 159 cases of typhoid. This year there were five cases up to the 20th of the month. Every month so far this year there has been a general decrease in the number of deaths. Last May there were 25 cases of scarlet fever and 10 in June. This year there has been none. Last year there were 3,114 cases of infectious and contagious diseases reported during the year, but if the present ratio keeps up there will be less than 1,000 this year.

Cities Consider Joint Sewerage Plan

Pasadena, Cal.—In response to a request from a committee of South Pasadena City Trustees, Mayor Thomas Earley has asked the Legal Department of this city to determine under what circumstances, if any, this city may permit South Pasadena to use its outfall sewer for carrying off the sewage of that municipality. Johathan S. Dodge, chairman of the South Pasadena Board of Trustees; Trustee Booth and Trustee Thomas have called upon Mayor Earley and represented that the city of South Pasadena is making preparations to lay sewer mains on a large scale, and they desired to find out what proportion of the sewage the Pasadena outfall could carry and whether this city would enter into an agreement to carry it away. Mayor Earley said he told them that it would be worth about \$100,000 to Pasadena to enter into an agreement to carry away the South Pasadena sewage in its main outfall. He said that its capacity is probably large enough to handle all the sewage that South Pasadena could drain into it.

Shamokin Alarmed by Typhoid

Shamokin, Pa.—The typhoid fever epidemic in the coal township section of Shamokin has become so alarming that the Board of Health of that district has appealed to the head of the State Health Department, Dr. Samuel Dixon. At the present time there are 20 cases of the disease that have been reported, but there has been only one death. Several cases are also reported in Shamokin. The water used by the families affected has been sent to Philadelphia to be analyzed. Dr. Dixon will personally visit Shamokin to fully investigate the causes of the epidemic.

Wood Stave Pipe Repaired with Concrete

Salt Lake City, Utah.—The wood stave outlet pipe of the outfall sewer, which has been leaking badly, has been effectually repaired by Contractor P. J. Moran. He covered the pipe with concrete for a distance of about 1,000 feet, and would have gone further had he not been stopped by Mayor Bransford. Moran will have a bill against the city of approximately \$23,000, or about \$7,000 more than the pipe originally cost.

Washington Regulates the Keeping of Fowl

Washington, D. C.—A proposition has been pending before the Commissioners to prohibit the keeping of roosters in any block in the city, 75 per cent of which is built upon. This, however, aroused so much opposition that it has been modified so as to permit the keeping of roosters in any block having 75 per cent of its lots improved, provided a majority of the householders in the block give their consent. Other provisions regarding the keeping of fowls and pigeons are that they shall not be kept within 50 feet of any structure used for human habitation, the distance to be measured only to structures not owned by the owner of the fowls or pigeons. Within the fire limits the distance is 25 instead of 50 feet. A permit from the Health Officer will also be required.

WATER SUPPLY

Water Company Finds Good Artesian Supply

Anderson, Cal.—Anderson has just celebrated the completion of the new system of water works. After a year's expensive exploration work the Anderson Water Company struck an artesian flow of water two months ago at a depth of about 300 feet, but it was not until a few days ago that the powerful pumps were set in motion and this flow of water for the first time pumped into the reservoir on the hill and thence turned into the mains that supply every residence in the town. The starting of the pumps was witnessed by a large crowd of interested spectators. The pumps have a capacity of 25 miners' inches. They could not in any way feaze the subterranean flow. The water is pure, too, and that is an important item, for hitherto Anderson has derived its water from an open ditch about 25 miles long. The town now has ample fire protection—62½ pounds to the square inch on Main street, and a full reservoir to back it up. The improvements just completed by the Anderson Water Company cost \$7,000.

Lake Water Supplied Bay City Is Impure

Bay City, Mich.—The State Board of Health has furnished to Dr. Charles Freiberg, Health Officer, a report on an analysis of water taken from Bay City mains. The report says that, assuming that they are dealing with Lake Huron water, and taking pure Lake Huron water as a standard, the degree of contamination in the water is exceedingly high, as shown specially by the free ammonia, albumenoid ammonia, chlorine and oxygen consumed. The water contains an excessive number of bacteria.

Spring Valley Company Brings Annual Suit

San Francisco, Cal.—Suit has been brought in the United States Circuit Court by the Spring Valley Water Company to enjoin the Board of Supervisors from putting into effect the reduced water rates for the year beginning July 1 next. The suit is practically the same as previous suits which the company has brought each year, and which last year resulted in an injunction being granted by Judge Farrington. The complaint filed by Attorney A. E. Shaw and E. J. McCutchen for Spring Valley consisted of a long restatement of the company's claims in regard to the valuation of its plant, a reasonable water rate, etc. There were no changes made in the figures of valuation, \$45,000,000 being adhered to as the present value of the company's plant.

Would Furnish Raw Water for Manufacturing Purposes

Grand Forks, N. D.—The Water Committee has sent a report to Council on the condition of the water supply. It is stated that the construction of numerous drainage ditches and the enlargement of the Crookston sewerage system into the Red River, from which Grand Forks takes its supply, have increased the pollution of the water. As a temporary measure the construction of special mains to supply factories, which consume one-third of the total amount pumped, and for fire protection in the downtown districts is recommended. It is also urged that the intake pipe be moved further up the river. The use of a coagulant is also advised as tending to relieve the filters. With these improvements it is thought that no radical change in the water works will be necessary.

Passaic Considers Jersey City's Water Proposition

Passaic, N. J.—At a conference between Passaic and Jersey City officials, looking forward to a supply of water to Passaic by Jersey City, the following tentative agreement was reached:

1. Jersey City agrees to furnish filtered water within one year at a cost of from sixty to forty dollars per million gallons.
2. Jersey City will erect a filtration plant at a cost of \$600,000, none of the cost to be borne by the city of Passaic.
3. If desired by Passaic, Jersey City will form a company to lay all mains in and to this city without previous cost to Passaic, or will take the city's bonds for carrying on the work.
4. Jersey City will pay all legal expenses connected with litigation that may follow the signing of contracts.
5. Pressure shall be as Passaic specifies.
6. Jersey City will lay an additional main to Boonton for Passaic's supply, at no added cost to Passaic.
7. Passaic shall pay only for the water it actually consumes.

Steal Pike's Peak Water

Colorado Springs, Col.—Six armed men, believed to be from Victor, on June 23 held up the caretaker of the Colorado Springs water system, named Arthur, opened the flood gates on Pike's Peak and turned 174,000,000 gallons into the Victor reservoir. Arthur was held a prisoner for some time while the water was being run off, but finally managed to telephone to this city for help. A Sheriff's posse of 10 men immediately left for the scene of the hold-up. The water supplies for Colorado Springs and the Cripple Creek district are located on the slopes of Pike's Peak, and disputes over them are so frequent as to cause friction between the two cities.

To Utilize Water Power Canal in New Purification Works

Trenton, N. J.—The old water power canal forms a prominent part of the project for an improved water supply. It is proposed to take water from the canal, which flows from the Delaware River not many miles above the city, to a point near Cadwallader Park, where sedimentation basins may be built, thus eliminating the cost of pumping water from the river. The old gate house shown in the



POWER CANAL FROM DELAWARE RIVER TO BE USED FOR WATER WORKS
Courtesy of the Philadelphia Record

illustration is a picturesque landmark on the line of the canal. It is believed that the proposition may be made to pay for itself. Part of the canal, that below the present pumping station, will not be required and may be sold for an amount equal to the purchase price of the whole canal.

Report in Favor of Drive Wells

Norfolk, Va.—Charles E. Boller, of New York, Consulting Engineer, has filed a report at the office of the Board of Control confirming the conclusions of Engineer Nicholas S. Hill, Jr., who, after an exhaustive investigation at the city water works last fall, recommended the installation of a system of drive wells in place of the present method of artificial filtration of the water supply.

Seattle Short of Water

Seattle, Wash.—Seattle is short of water—shorter than it has ever been since the first pipe line was connected up between Volunteer Park reservoir and Cedar River. Lincoln Park reservoir is practically empty and Volunteer Park reservoir has less than 20,000,000 gallons. A new wooden pipe line is nearly completed, and as the water is turned on to successive sections leaks have developed, making it necessary to uncover hundreds of feet of the pipe and tighten the bands. Superintendent L. B. Youngs is convinced that much of the pipe has not been properly clinched. The old pipe line is barely sufficient to keep up the supply.

Work Begun on Big Earth Dam

Waterbury, Conn.—A start has been made on the great earth dam for the new reservoir. The dam will be 1,500 feet long and 90 feet high from the bottom of the reservoir; the foundations will extend 45 feet lower. The dam will have a concrete core wall. The width of the earth at the bottom will be 500 feet. The reservoir will hold 2,000,000,000 gallons and be about a mile and a half long. Half a million cubic yards will be needed in the embankment. The upper side will be protected by three feet of rubble and crushed stone. Altogether, about 1,000,000 tons of material will be used. Two or three years will be required for the construction.

STREET LIGHTING AND POWER

Big Water Power in Use

Chattanooga, Tenn.—A current of electricity was turned into this city on June 18, and power from the great lock and dam constructed at Hales Bar, 17 miles away, is now available for the operation of industries. The dam has been in course of construction for three years, and the plant will furnish 50,000 horsepower. The cost of the lock and dam, power and wire line was over \$3,000,000. The dam will keep navigation on the Tennessee River to Chattanooga open all the year round.

Indianapolis Enjoying Cheap Gas

Indianapolis, Ind.—The new Citizens' Gas Company is making good progress, now having 1,500 meters in place. The output is about 150,000 cubic feet of gas per day, which is sold to consumers at 60 cents per 1,000. The old gas company has announced that it will soon make a reduction in rates, which may be even lower than those of the new company. The new company has the advantage of having purchased cheaply a system of distribution pipes originally laid by a natural gas company.

Merchants' Associations Combine for Better Light

Philadelphia, Pa.—Representatives of the Market Street Merchants' Association and of the Walnut Street Business Association have planned a campaign to obtain better lighting of the whole downtown shopping district at the earliest possible moment. The programme marked out by the joint committee is far more sweeping than any previous lighting scheme. Although the lighting crusade was the principal theme of a recent conference, another important step was taken in the establishment of a permanent joint committee, made up of six members from each association, which is to have charge of all matters on which the organizations may wish to make common cause. Petitions have already been presented to the city officials, bearing the signatures of 700 prominent merchants and business men in Walnut, Chestnut and Broad streets, asking that the McLaughlin plan be extended to their streets, and that the city proceed at once with the work. At the meeting measures were taken to urge each individual member of both associations to bring all possible pressure to bear personally upon the Electrical and Finance Committees of Councils in an endeavor to obtain approval of the plan, and the necessary appropriations for the immediate carrying out of the work before the summer adjournment.

To Develop 15,000 Horsepower of Electrical Energy

St. Paul, Minn.—An exhaustive investigation just completed by a commission of government engineers acting with local officers of the Government Engineer Office, city officials of St. Paul and Minneapolis and prominent business men has demonstrated that 15,000 horsepower of electrical energy can be developed at the lower of the two new navigation locks on the Mississippi, just above St. Paul, by the expenditure of an additional \$250,000. The Government makes the unusual proposition that it will permit the use of power at the lock, provided the two cities or other interests will bear the additional cost. That the power will be used is already settled. Whether it will be used by a private power company, or used jointly by the State of Minnesota and the two adjacent cities is a question which will be determined by a joint commission composed of three men named by Governor Johnson and three by each of the two Mayors. The Government has completed one lock and dam, and partially completed the second, or lower of the two. To develop the power the second dam must be raised 15 feet, utilizing present foundations and the work already completed. This will provide a 30-foot dam, raising a large head of water and developing enormous power. The State is already interested and wishes a portion of the power for use at the State University nearby the State Agricultural School, which is one of the largest in the United States, and the State Fair Grounds. The Government requires 1,000 horsepower, and the two cities of St. Paul and Minneapolis have need of the balance. The Government's proposition, while it does not establish a precedent, is unusual, and the proposed improvement will be the first of its kind in the Northwestern United States.

Rates Reduced in Minneapolis

Minneapolis, Minn.—A sweeping reduction in rates for electrical power has been announced by the Minneapolis General Electric Company. The change has been made by increasing the discounts on the published rates. The maximum rate remains at 14 cents per kilowatt hour and the discount is increased from 2 to 4 cents. The excess rate becomes 6 cents net. The rates include first installation of regular arc and incandescent lamps, but do not include maintenance, which will be furnished at cost. The new schedule for power purposes is 7½ cents per kilowatt hour maximum and 2½ cents per hour for all excess current, with a 10 per cent discount for payment within 10 days. The company asks for the repeal of certain ordinances purporting to annul its franchise, which, the company claims, affect its credit, although it believes they are void.

FIRE AND POLICE

Firemen May Quit Service

Grand Rapids, Minn.—There is much dissatisfaction in the Volunteer Fire Department over the manner in which the Department is being treated by the Village Council, and there has been considerable talk among the members of the Department of resigning in a body. Some time ago the Firemen sent a committee to the Village Council asking that the regular members in good standing receive \$25 each. That amount, they figured, would not begin to pay them for the time they put in for the good of the Department and in answering calls, not to mention the clothing they spoiled and the doctor bills incurred through exposure to the elements while fighting fires. The Council allowed them \$10 each. The firemen were much put out at the lack of appreciation on the part of the Council, and much dissatisfaction has since existed.

City to Abolish Fire Insurance

Oakland, Cal.—Taking the stand that it is no more necessary for the city than the State to carry fire insurance on its buildings, the Board of Works has agreed that at the expiration of a recently renewed policy on the City Hall next April, a definite policy, which may do away with fire insurance, will be outlined. City Attorney Stetson said that railroad companies carried no insurance, the diversification of their properties minimizing the losses, and a fund being especially carried to pay for losses by fire. It is the opinion of the Board that the fire insurance money could be put to a better use and that any fire losses could be met from funds for this purpose to be included.

More Work for Mounted Men

Dallas, Tex.—What Dallas lacks in number of policemen is to be made up for, according to present plans of Commissioner Seay, by what might be termed the more extensive "circulation" of the mounted men of the force. It is the intention of Mr. Seay to have the mounted men ride at all times of the day and night through all sections of the city. Heretofore, the mounted men have maintained their headquarters at the City Jail or at the City Hall, and have gone out on duty only when a special call was made. Under the new plan the policemen who use motorcycles will respond to special calls, while the mounted men will constitute a patrol, visiting all sections and following a circuit known only to their superior officer. Violations of the law will, it is believed, be frequently detected by this patrol.

New Key for Fire Boxes

Washington, D. C.—Important improvements in the fire alarm service of the District have resulted from the equipping of every fire alarm box with an improved platinum point key break. Walter C. Allen, Electrical Engineer, reported to Commissioner H. B. F. Macfarland that the work of putting the new style key break in the fire alarm boxes has been completed. The new device is much more reliable than the old style brush contact break and was recommended by the special committee of the National Board of Fire Underwriters in 1905, when reporting upon the conditions affecting the fire hazard in the District of Columbia. Thereupon Commissioner Macfarland asked the Commissioners to put an item of \$1,700 into the estimates.

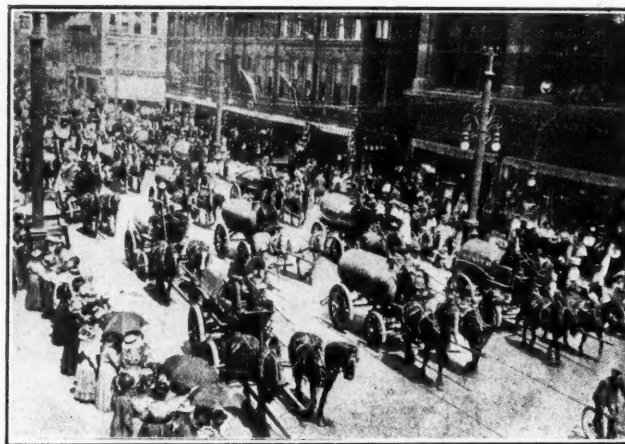
GOVERNMENT AND FINANCE

Banks Must Send to City Office for Deposits

Baltimore, Md.—A radical change has been made in the methods of making deposits by the City Register's office. The deposits, instead of being sent to the bank, are sent for by the bank. The bank clerk calls at the office of the City Register, takes the money and enters the amount in the bank book. City Register Thomas has given orders, following the report of the methods employed in the Consolidated Gas Company's office, that no erasures should be tolerated in bank books. When a bona fide mistake is made the figure must be scratched out and the correct figure inserted below in red ink, after which certification must be made to the correction. The value of the reform is clear, as it was by changing the entries in the bank books of the City Register's office that the recent defalcation was effected.

Denver's Civic Parade

Denver, Col.—Denver's Civic Parade, said to be the most complete presentation of the city's activities ever made, took place June 15. It took over an hour for the parade to pass the reviewing stand, where were stationed Mayor Robert W. Speer and the members of the City Council. The procession was about two miles long. Twelve hundred and fifty individuals, 304 teams and 22 automobiles took part in it. A band led each of the four divisions.



DENVER MUNICIPAL PARADE—STREET CLEANING DIVISION

Wisconsin Substitute for Voting Machine

Madison, Wis.—The Legislature has passed a bill providing for the use of a coupon ballot at all elections. It consists of several sheets of cardboard perforated into coupons and fastened by a staple at the top. Each sheet has a different color and is composed of the consecutively numbered coupons of a single political party. Each coupon bears the name of a single candidate for office. There is also a folder which may be sealed, having spaces to receive the voted coupons and numbered to correspond with them. Still another envelope receives the portion of the ballot not voted. To vote a straight ticket the voter tears off the whole sheet of coupons of the party of his choice. If he splits his ticket he tears from the several sheets the coupons of the candidate of his choice. He then places the voted coupons in the folder and the unvoted ones in the envelope.

Narragansett in Bad Shape Financially

Narragansett, R. I.—The town is now facing the most serious financial crisis in its history, the debt limit of 5 per cent of the valuation having been reached. The banks are compelled by law to refuse further credit. There is less than \$200 in the town treasury, and there are bills unpaid which have been audited by the Town Council amounting to nearly \$4,000, with over a month's salary due the school teachers, which will add \$350 more. Besides this, it is known that there are claims against the town, not yet presented, which will reach at least \$1,000 more.

Staunton Plan for Johnson City

Johnson City, Tenn.—Johnson City has adopted the Staunton form of city business administration, and two representatives of that town, E. E. Ellsworth, Recorder, and William M. Dunlap, Commissioner and City Engineer, corresponding to Staunton's general manager, have been visiting Staunton, looking into methods. Mr. Dunlap is a civil engineer, and formerly City Engineer of Roanoke.

Departmental Cooperation for City Betterment

Pittsburg, Pa.—Mayor Magee is endeavoring to bring about better cooperation between the city departments for the purpose of making Pittsburg a more orderly and clean city. An ordinance will be passed providing that all householders, merchants and manufacturers shall be held responsible for refuse garbage or rubbish on any thoroughfare in front or rear of their premises. The Mayor contends that a policeman who is sworn to preserve peace and life is duty bound to prevent death through contagious diseases as he is to avert accidents which destroy life. A "white wing" should be as much a peace officer and health officer as a patrolman when necessity requires, and in turn the policeman should remember that a torn-up street or a displaced paving block is as much a concern to the Bureau of Police as it is to the Bureau of Highways and Sewers. A sanitary officer or a tenement house inspector, the Mayor maintains, frequently makes discoveries in the pursuance of his duties that demand attention of the Police or Department of Charities. Realizing that cooperative work along the lines he advocates is seriously handicapped by reason of the fact that the offices of the different municipal departments are scattered, he will soon take up the matter of placing at least all the executive offices in one building.

REFUSE COLLECTION AND DISPOSAL

City's Health Is Threatened

Atlanta, Ga.—Atlanta is facing a serious situation, owing to its inability to dispose of garbage. Recently the General Council passed an ordinance forcing every citizen to provide a water-tight receptacle for garbage. These were secured at an estimated cost of \$100,000 to the householders. Now the city finds that there are no longer available lots on which to dump the garbage. Either a much larger number of teams to haul garbage to a greater distance or a new crematory is the remedy.

Laying Dust with Oil Gains in Favor

Boston, Mass.—Superintendent Foss of the Street Cleaning and Watering Division has received a request from a resident on Edgemont street that he discontinue using oil on that highway. The Superintendent made a canvass of the street with the result that 65 of the residents favored the oil and but 12 the water method of keeping down the dust. The Superintendent accordingly decided not to grant the request of the petitioner. The oil method appears to be growing in favor all along the line.

Uses Creosote Successfully on Garbage Boats

New Orleans, La.—Commissioner Smith of the Department of Public Works is using a deodorant with a creosote base, which has been prepared at his request by the State and City Health Officers, for the purpose of disinfecting or deodorizing the garbage in the boats lying at the wharves. The creosote preparation is sprayed over the contents of the boats, and as soon as it strikes the garbage the odor is not noticeable, the creosote odor predominating. The flies that used to gather about the boats are killed at once or driven away.

Citizens Complain of Garbage Odors

Wilkes-Barre, Pa.—Citizens of Firwood have entered a protest with Health Officer Parker against the odors arising from the Bennett garbage disposal plant in that section, but as yet no action has been taken in the matter. Those presenting the grievance stated that on damp days when the atmosphere is sultry the odors are such as to make it impossible for them to remain out of doors. They were advised by the Health Officer to have a petition signed and present it to Councils so that action could be taken.

Incinerator to Furnish Municipal Lights

Minneapolis, Minn.—The Health Department will furnish to the city its first municipally owned street lights. Dr. P. M. Hall, Health Commissioner, says that within a few months' time the power plant at the crematory will be able to furnish 200 arc lamps in North Minneapolis. This would save the city \$15,000 a year and would make the crematory more than self-sustaining. Dr. Hall intends to inaugurate the street lighting scheme as soon as he can secure a dynamo of suitable size. This will cost \$5,000, and the Board of Tax Levy will be asked for the appropriation. The supplying of additional lights will be made possible by the installation of additional boiler capacity at the crematory, which will make it possible to generate 1,000 horsepower there. At present the crematory plant furnishes light, heat and power for the workhouse, Hopewell Hospital and a number of other municipal buildings. This saves the city about \$8,000 a year.

RAPID TRANSIT

Arnold Advises More Space Between Cars

Chicago, Ill.—A recent fatal accident to a man caught in the narrow space between two trolley cars has brought to the front the question of the proper spacing between tracks. B. J. Arnold, in a letter to a City Council committee, advises against the issue of further permits for track construction unless the distance between track centers was 10 feet 2 inches. The present standard distance of 9 feet 8½ inches gives a clearance of 8½ inches. The recommendation would therefore increase this distance between passing cars to 14 inches. Moreover, he would advise the narrowing of the overall width of cars to 8 feet 6 inches, thus leaving a clear space of 20 inches between cars.

Cleveland Enjoys Another Traction Campaign

Cleveland, O.—Mayor Johnson has been addressing public meetings in tents in regard to Cleveland traction matters. Both the Mayor and his associates in these meetings assume that they will be able to wrest the 3-cent lines from the Cleveland Railroad Company by revoking the grants to the Forest City and allied roads.

New York Rapid Transit Plans

New York, N. Y.—The Public Service Commission has decided to submit the plans for the building of a new tri-borough subway, as prepared by the Bradley-Gaffney-Steers Company, to the Board of Estimate. The Commission will also ask the Board to act on the proposed routes before it adjourns for the summer on July 2. This letter will explain that if the routes are sanctioned it will be possible for the Commission to have the specifications and forms of contract ready to submit to the Board when it meets again in the early fall. The Commission is planning to advertise for bids for the new routes on a comprehensive scale. For that purpose the Commission has recommended to the Board of Estimate that it be allowed to advertise under three heads: First, construction by city capital; second, construction and operation by private capital, and, third, operation by private capital of the routes which the city is building or has already sanctioned to be built with city money. The third alternative refers to the Centre street loop in Manhattan, the Broadway-Lafayette loop in Brooklyn and the Fourth avenue loop in Brooklyn. The Bradley company has offered to make these routes part of their system and to operate them on terms to be fixed by the city.

Average Trolley Car Stop Is 6.5 Seconds

Rochester, N. Y.—Officials of the Rochester Railway Company are collecting data regarding the average duration of stops of street cars to take on or let off passengers. It has been found that on lines on which the proportion of men is greater than that of women the stops are shorter, because men often alight from a car while it is still in motion, or just before it has stopped, thus making the stop only a fraction of a second in length. The longest average stop on any line investigated was 11 seconds, the shortest 2.3 and the average of all investigations 6.5.

MISCELLANEOUS

City Plan for Hartford

Hartford, Conn. The City Plan Commission is considering several matters of interest in the development of the city. The layout of property, especially new suburban areas, was touched upon, and City Engineer Frederick L. Ford emphasized that the protection of life and property, with reference to light, air, congestion and fire, are the most important features to be observed. Superintendent of Parks George A. Parker insisted that public interest in private property is right, just as private interest in public property is right, and that the public has a right to determine to a certain extent, the development of private property.

Mayor Vetoes Ordinance Fixing Prohibitive License Fee

Jacksonville, Fla.—Mayor W. H. Sebring has vetoed the ordinance regulating the peddling of fruits, vegetables, etc., and fixing a license tax at \$500 on each vehicle used for the purpose. The veto is based on the opinion of City Attorney J. M. Barrs, who says that as the license fee is practically prohibitory, it is therefore void. The ordinance is also void as making a distinction between persons selling fruits and vegetables grown by themselves in Duval County and other persons.

New York Building Code

New York, N. Y.—Public hearings have been held by the Board of Aldermen regarding the provisions of the new building code and many controverted points have been threshed over. The main points are said to have been agreed upon. No monopoly will be given to any particular style of fireproofing. The majority report giving the field to hollow tiling will not be adopted. Cinder concrete will be permitted in fireproofing. The use of Rosendale cement will not be discontinued, as proposed.

Mayor Wants Public Comfort Stations

Indianapolis, Ind.—The directors of the Commercial Club and Mayor Bookwalter are considering plans for establishing comfort stations in several downtown street corners. The Mayor has asked Council for appropriations for this purpose for the last three years and will ask again. He believes that if the stations could once be established that they could be made self-sustaining by a system of small charges, say ten cents, for individual towels, clean brushes (sic), combs and soap. Revenue could also be obtained from shoe shining and newsstand privileges.

New Auto Law for Illinois

Springfield, Ill.—Governor Deneen has signed the bill revising the automobile law. The new measure is patterned largely after the Massachusetts law, fixing a reasonable speed limit instead of twenty miles an hour. The penalties for violations of the new law are doubled.

New Auto Law Praised

Washington, D. C.—The order of the Commissioners some time ago making it a misdemeanor for owners and drivers of automobiles to permit lubricating oils to drip from their vehicles in the streets of the city, and the work of the Police Department in vigorously enforcing the same is meeting with the approval of the citizens of the District as a whole, if the letters daily received by the Commissioners may be taken as an indication. More than 100 arrests for violation of this regulation have resulted since its enforcement. The appearance of the streets, the Commissioners say, especially in the vicinity of automobile stands, is improved.

Seeks Regulations to Improve Washington Architecture

Washington, D. C.—Major W. V. Judson, Engineer Commissioner, has asked the aid of the local chapter of the American Institute of Architects to procure uniformly good architectural construction throughout the District and prevent the erection of monstrosities by private owners. He suggests that information as to how these matters are treated in foreign cities be collected with a view to framing legislation to meet the local conditions. Citizens on certain streets or in certain districts can be persuaded to agree upon certain building regulations and restrictions.

Public Slaughter House Proposed

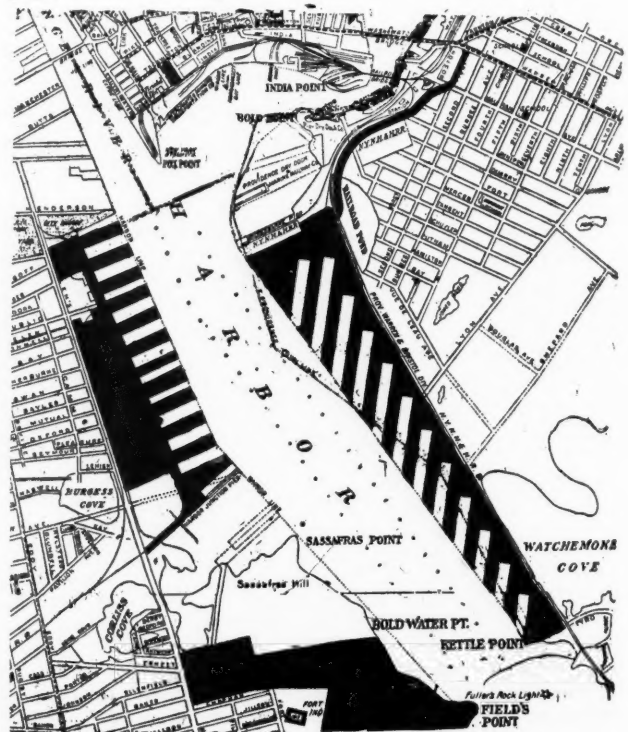
Holyoke, Mass.—Stricter enforcement of the meat laws is to be inaugurated by the local Board of Health. The Board has sought to be as alert as possible under present conditions. Now the Health Department is considering a plan to make possible a close watch over slaughtering. A new slaughter house may be built and all slaughtering licenses may be issued for use in that building. No definite plans have been made and the matter is under serious consideration. The law at present does not allow a man to slaughter, even on his own premises, meat for sale except in the presence of an inspector. At present the Inspector of Animals is obliged to chase about the town to watch the slaughtering. There is a feeling that some bad meat gets away from the Health Department. It is believed that a public slaughter house would solve the problem.

\$160,000,000 to Beautify Paris

Paris, France.—Paris will maintain her reputation for being the most beautiful city in the world and has voted \$160,000,000 for beautifying herself. This sum will be spent in the next forty years. There will be raised immediately by loan \$40,000,000 to be spent in general ornamentation according to plans which may be adopted by the municipal committee. Other items in the forty-year fund will be \$25,000,000 for water supply and drainage; \$12,000,000 for cleaning and repairing the streets; \$3,000,000 for new parks and children's playgrounds; \$5,000,000 for municipal buildings; \$16,000,000 for new schools. A big slice of the huge sum will be spent in opening new avenues, constructing boulevards and extending the Avenue des Champs Elysees beyond the Arc de Triomphe through Avenue de la Grande Armée to St. Germain, about ten miles. When this work is finished, according to the plans just completed, the Champs Elysees will be the most beautiful drive in any city in the world.

Future Harbor of Providence

Providence, R. I.—The accompanying illustration shows the way Providence harbor will look when the surveys about to be begun by the United States Government result in completed work. The dotted harbor line shows the cut-off that will be advised by the engineers at Field's Point. Commissioners appointed to investigate the possible facilities of the port to the General Assembly recommended that bonds to the amount of \$500,000 be issued, if authorized by the electors, and the matter will come up next November. The Providence Board of Trade has been active in interesting the municipal, State and Federal Governments in the work, which, it is believed, will make Providence a leading port in New England.



IMPROVEMENT OF PROVIDENCE HARBOR

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities

Night Watchman—Creation of Office

Fluker et al. vs. City of Union Point et al.—The Mayor and Council of the City of Union Point have no authority, under its charter, by ordinance to create the office of "night watchman" of said city, and to provide that the person holding such office shall serve until the ordinance is repealed, "shall go on duty at 6 p. m. and remain till 6 a. m.," and "shall protect the persons and property of said city," and "to that end * * * shall apprehend and arrest any persons violating the laws and ordinances of said city," and that he shall be paid by the city a stated sum per night as his salary.—Supreme Court of Georgia. 64 S. E. R., 648.

Street Improvements—Sidewalk Grades

Blanke et al. vs. Village of Genoa Junction et al.—The Statutes of 1898 authorizes villages to lay out and grade streets and to keep in repair sidewalks, etc. Laws of 1905 authorizes Village Boards to compel the construction or repair of sidewalks. A village adopted an ordinance permanently establishing the grades and curb lines. Held, that the ordinance established the grade of sidewalks, essentially a part of the streets, and could compel the construction of a sidewalk on the established grade.—Supreme Court of Wisconsin. 121 N. W. R., 132.

Defective Street—Negligence—Pleading

McLees et al. vs. City of Anderson.—In an action against a city for injuries received by one of the plaintiffs caused by a defect in a street, the complaint alleged that "the plaintiffs did not in any way bring about such injuries by their own negligent act, nor did they negligently contribute thereto." Held, that such allegation was a material allegation of fact and dispensed with the necessity on the part of defendant of setting up contributory negligence, and is not demurrable for failure to state facts on which to base the allegation that the injuries were not caused by contributory negligence; for, if the plaintiffs did nothing to cause the injury there was no necessity for further allegations in order to lay a foundation for proof of a negative.—Supreme Court of South Carolina. 64 S. E. R., 750.

Public Improvement Assessments—Appeal

Murdoch et al. vs. City of Pittsburg.—No appeal lies from a report of viewers, where the assessment of benefits covers only the cost of the improvement, and no property is taken, injured, or destroyed, or assessment of benefits made to pay for property taken, injured, or destroyed. Exceptions will not lie to the report of viewers assessing benefits to pay the cost of grading, paving, and curbing a street, where no question is raised as to the liability to assessment, nor the regularity of the proceedings, nor the action of the viewers in any way, except that they erred in judgment in determining the amount of benefits.—Supreme Court of Pennsylvania. 72 A. R. 701.

Street Improvements—Jurisdiction of City Department

City of Chicago vs. Mandel et al.—Improvements of a street adjoining a park were made by mutual agreement between the Park Board and Board of Local Improvements. For many years it had been the policy of the Park Board to occupy the position of a property owner and join in improvements of streets adjoining parks. An engineer of the park board testified that he had not exercised any jurisdiction over the street. Held, that the Park Board had not assumed jurisdiction over the street under Supplemental South Park Act April 16, 1869, and the city was not deprived of its power to improve the street.—Supreme Court of Illinois. 88 N. E. R. 226.

Assessment for Street Widening—Benefits

City of Pittsburg vs. Newell.—In a proceeding to assess benefits for widening a street, counsel of a property owner attempted to show on cross-examination that the property in question, so far as benefits might accrue to the owner of the fee was leased for a term of years. Held, that the exclusion of such evidence was not error.—Supreme Court of Pennsylvania. 72 A. R., 793.

Bids for Paving—Submission of Samples

Maryland Pavement Company of Baltimore City vs. Mahool, Mayor, et al.—An advertisement for bids for certain street improvements reserved the right of the Board of Awards to reject any bids, and the specifications stated that each bidder must deposit with his proposal a sample concrete block, stating at what quarry it was manufactured, and agree, if the contract was awarded to him, to furnish such blocks, made at such quarry, and equal to the sample. Petitioner's bid was the lowest, but it did not comply with the requirements as to the deposit of a sample block, together with the necessary statement and agreement contained in the specifications. Held, that petitioner had no right to have its bid considered, as the reasonable requirements of a proposal for bids must be complied with.—Court of Appeals of Maryland. A. R., 833.

Special Assessments—Measuring of Frontage

City of Chillicothe ex rel. Meek vs. Henry.—Revised Statute 1899, authorizing a special tax on the lots "on any street" for the improvement of the street, and providing for the apportionment of the cost upon the several lots according to the "frontage," contemplate that the property shall front on the street improved, and a city paving a street together with the area at the place of intersection with another street cannot levy a special tax on property abutting on the latter street; the word "frontage" being but an expression of the front-foot rule, under which no other property than that abutting on the street improved can be assessed.—Kansas City Court of Appeals, Missouri. 118 S. W. R. 487.

Negligence of City Departments—Liability

Gaetjens vs. City of New York et al.—The city of New York is not liable for the torts of its departments of police, fire, education, or charity, or of any official or employee thereof, as such departments are not agencies of the city in its corporate capacity, but public agencies created by law to discharge state duties, and not corporate duties or business, so that the rule of respondeat superior does not apply to the city in respect of them. The Fire Department of New York City having put up and used a wire in discharge of its duties, the city cannot be made liable for its negligence therein, nor for suffering the wire or poles carrying it to wear out or decay and fall; the city not being bound to inspect or care for the wires or poles, which are under the control of the department as a state agency.—New York Supreme Court. 116 N. Y. S. 759.

Liability for Defect in Street—Subsequent Repairs

Benton et ux. vs. City of St. Louis.—If a strip of land was a public city street, the fact that people of the neighborhood or abutters built a sidewalk along the side of it, and from time to time repaired it without ordinance of the city or order from its officers, and constructed a manhole over a sink hole on the land at private expense and turned local drainage into it, would not relieve the city from liability for defects in the street or the sidewalk, or for a dangerous condition arising from a combination of the defects and the unguarded sink hole, since a city owns its streets as a trustee for the public, and is primarily bound to keep them free from defects caused by itself or by third persons, if it has notice of such third persons' acts in time to repair. In an action against a city for the death of a child caused by a defect in a street, where there was an issue as to whether the locus was in a public street, evidence that the city, in the August or September after the death in May, had made repairs at the place of accident, was competent as tending to show that the city recognized the locus as being in a public street, the remoteness of the repairs going to the weight and not the competency of the evidence.—Supreme Court of Missouri. 118 S. W. R. 418.

Injury to Employee in Workhouse

Bell vs. City of Cincinnati.—One employed and acting at the time as a guard of prisoners working in a stone quarry within the corporation, and who is injured by explosion while attempting to remove the lid of a box of percussion caps to be used in setting off a blast in the quarry, cannot recover damages of the municipal corporation for injuries sustained by the explosion.—Supreme Court of Ohio. 88 N. E. R. 128.

NEWS OF THE SOCIETIES

International Association for the Prevention of Smoke.—The fourth annual convention of the association was held in the Educational Building, Syracuse, N. Y., June 23-25. Commissioner of Public Safety Harlow C. Clark, on behalf of Mayor Alan C. Fobes, welcomed the organization, and President John Krause, Cleveland, O., responded. President Krause estimated that Cleveland had been suffering a loss of \$4,000,000 a year from smoke. Among the papers or addresses presented were the following: Paul P. Bird, Chicago, Ill., spoke on "Smoke Abatement in Chicago." With the aid of lantern slides he described a large variety of furnaces and designs for setting up boilers which have been tried in Chicago. I. T. Randall, formerly with the United States Geological Survey, spoke on the "Relation of the Character of Coals to the Prevention of Smoke." L. M. Beers, of the Beers Engineering and Equipment Company, Rochester, N. Y., spoke on the "Influence of Draft on Economy and Smoke Prevention." A paper was read prepared by Dr. Thomas R. Darlington, which dealt with smoke from a sanitary standpoint. He presented statistics showing that there is a much greater infant mortality in centers given over to coal industries as compared with those in districts given over to textile industries. Prof. James B. Foulks, Jr., Syracuse University, gave a demonstration at the gas plant of the Syracuse Lighting Company of the comparative consumption of coal with and without steam jets. O. N. Bean, of the Bunsen Smokeless Furnace Company of New York, spoke on "The Elimination of Industrial Smoke." H. M. Wilson, Chief Engineer of the United States Geological Survey, spoke on "Fuel Economy and Smoke Prevention." S. B. Flagg spoke on "The Smokeless Furnace." D. Raymond Cobb read a paper on "The Legal Aspect of Smoke Prevention."

Indiana Municipal League.—The nineteenth annual meeting was held at Tippecanoe County Court House, Lafayette, June 22. Over 30 cities of the State are members of the League, and 24 of these had from 1 to 14 delegates present. The meeting was called to order by President Joseph T. McNary, Councilman of Logansport. Mayor George R. Durgan of Lafayette gave the address of welcome. In the course of his remarks he told of some of the things Lafayette had accomplished and the condition of the city. The city owns a water works system which has cost about \$1,300,000, including the interest on bonds. This system has 51½ miles of pipe and two large pumping stations and reservoirs. The supply is from wells. Columbian Park, with its playgrounds, swimming pool and "zoo," is a boon to all the inhabitants. A garbage disposal plant helps the sanitary condition of the city. The present lighting contract gives the city 315 arc lights on a 2,500-hour schedule at a little less than \$38 per year, and gives the private consumer a rate of 9 cents per kilowatt, with a 10 per cent discount. With the present tax rate of \$1.5 per cent of which goes into the sinking fund, the city had a surplus of \$83,432 on January 1.

Tuesday evening R. O. James gave a paper on "The Tramp Problem." He told of the condition that now exists in Indiana, where the railroads and com-

munities are overrun with tramps, and pointed out the difference in those States like Ohio and West Virginia, which have proper tramp laws. Mr. James advocated a law making it a misdemeanor to steal rides on trains, with the punishment to be hard labor. If such a law were passed and enforced he believed much would be done in the lessening of the trouble. Virginia Sharpe Patterson, of Kokomo, Ind., presented a paper on "Civic Improvement," dealing mostly with the æsthetic side of the question. Mrs. R. L. Sackett, of Lafayette, led the discussion. She urged the abolition of billboards and signs on buildings, the keeping up of the parking along streets, the creation of numerous small parks or breathing spots, and in connection with this suggested the use of vacant lots and the general improvement of streets, walks and buildings. Ex-Mayor Fred. J. France of Huntington gave an address called "Peaches and Cream," in which he made many happy remarks about various members of the League.

Under the title of "Ten Minutes Discussion on Business Management of City Government," by business men of Lafayette, Walter J. Ball gave the first talk. Mr. Ball advocated the selection of proper men for the heads of various departments of the city government as is done in ordinary commercial enterprises. Prof. Stanley Coulter, of Purdue, stated that people do not object to high taxes if they have something to show for them. President McNary gave a report of the last meeting of the League of American Municipalities.

"Sewage and the Disposal Thereof" was very comprehensively taken up by City Engineer A. P. Melton, of Gary, and H. H. Thompson, of Logansport, who led the discussion, told of the present-day practice in sewage disposal in a large number of American cities.

The members of the new State Commission on Public Accounting were present, and William A. Dehority, Chief of the Board, told of the proposed work, and asked the support of all the city officials. The Commission is now getting up report forms and working on the system to be employed.

"The Public Utility Commission" was discussed by the Hon. James Garrard, of Vincennes, a member of the State Legislature, who introduced the commission bill at the last session. In his estimation the need of such a commission is to act as arbitrator between the producer and user of the public utilities and regulate price and management so that it will be fair to both. With such a commission there would be no excuse for duplication of plants and the accompanying economic loss. He stated that much of the objection to the commission bill came from municipal ownership agitators.

B. B. Johnson, of the Board of Public Works of Richmond, led the discussion. He was of the opinion that the real objectors were the utility corporations, who did not want to be interfered with, and accused these people with fathering the bill introduced in the last Legislature. In his estimation the need is to prevent overcapitalization and the necessity for earning dividends on this. He cited an agreement accepted by a heating company which wished to operate in his city. This agreement provided that after meeting operating expenses, fixed charges and 6 per cent on the investment, half of

the surplus should go to the city. Mayor Becker of Hammond also spoke on the subject, and said that the curse of the municipalities to-day was the utility corporations which wished to control.

In the absence of Frederick E. Matson, Corporation Counsel of Indianapolis, E. D. Bowen, City Attorney, of the same city, took up the matter of track elevation. Under the general law the cities must stand all the expense of track elevation, but can order it done under their police power. In Indianapolis a special law required the railroads to share the expense. The law also provides that where the elevation is a municipal improvement no damages can be claimed, but where it is a railroad improvement they can. "Should workhouses be established in Indiana, and, if so, how?" was the subject treated by Mayor Lemuel Darrow of La Porte.

Reports of the various officers and committees were received on Thursday, and besides certain changes in existing laws the Legislative Committee advocated the maintaining of representatives at the State Legislature to look after the interests of the cities. During the past session Mayor Becker of Hammond and Mayor Darrow of La Porte were in attendance all the session and accomplished considerable.

Mayor W. J. Hosey of Fort Wayne was to present a paper on "Municipal Ownership of Electric Light and Water Works Plants." In his absence Mr. McGrath, of the Board of Public Works of Lafayette, took the matter up and he told about the Lafayette water works and what had been accomplished. Robert R. Johnston, of Logansport, led the discussion, and told of the experience of Logansport in the management of both water works and electric lighting. In his opinion, before a city takes these up they should have both good streets and proper sewerage; then, if they have the money, they can take up municipal ownership. As water works have less delicate mechanism, this should be taken up first. In all cases depreciation and sinking funds should be provided. Politics should also be kept out of the management, and men should be hired for fitness, and fitness alone.

"The Three Mile Road Law as it Affects Towns and Cities" was taken up by E. F. Gruber, City Attorney of Frankfort. "What Effect Will Local Option Have on Cities and Towns?" was discussed in a paper prepared by W. W. Pepple, City Attorney of Michigan City, and read by Mayor Darrow of La Porte.

Dr. J. M. Hurty, of the State Board of Health, talked on "Hygiene and Sanitation." He believes that all infectious and contagious diseases can be stamped out, and urged the duty of municipal authorities in accomplishing this. He particularly wishes war waged against the fly, and presented a copy of an ordinance which he would like all the cities to adopt.

The officers of the League for the coming year were all elected unanimously—Joseph T. McNary, Councilman of Logansport, president; Charles Mitchels, Councilman of Noblesville, first vice-president; Lemuel Darrow, Mayor of La Porte, second vice-president; C. W. Merrill, City Clerk, Richmond, secretary; Loring W. Mellette, ex-City Attorney of Elwood, treasurer. Richmond was chosen as the next place of meeting.

Health Officers of Ohio.—The eighth annual meeting of the Health Officers of the State was held at Toledo, O., June 17-18. Under the act by which the State Board of Health calls this meeting the members of the Boards of Health of a county or township are compelled to send at least one delegate to the meeting. The following addresses were made:

Opening remarks by the President of the State Board of Health—Dr. Byron Stanton, Cincinnati.

"Prevention of Rabies"—Dr. Paul Fischer, State Veterinarian, Columbus.

"Welfare of Infants and Children"—Dr. C. O. Probst, Secretary State Board of Health, Columbus.

"The Teaching of Hygiene and Sanitation in the Public Schools"—Dr. George L. Chapman, Toledo.

"Duties of the Township Health Officer"—Dr. P. M. Lehman, Health Officer, Ney.

"Suggestions for Improving the Rural Health Service"—August Ruhlley, Health Officer, Archbold.

"Vital Statistics"—Dr. F. L. Watkins, State Registrar of Vital Statistics, Columbus.

"Protection of Rural Water Supplies"—Paul Hansen, Assistant Engineer, State Board of Health, Columbus.

"Vaccination"—Dr. G. W. Hine, Health Officer, Berlin Heights.

Diphtheria—
(a) "How Communicated"—Dr. Ralph C. Wise, Millersburg.

(b) "Quarantine in Diphtheria; Who Should Be Quarantined; How Long?"—Dr. W. L. Case, Mt. Gilead.

(c) "Antitoxin; Its Free Distribution for the Cure and Prevention of Diphtheria"—Dr. N. Sager, Jr., Herring.

(d) "Cleansing and Disinfection After Diphtheria"—Dr. E. M. Phelps, New Bremen.

Cincinnati Engineers' Club.—At a meeting of the club June 17 A. Elliott Kimberly, assistant engineer of the State Board of Health, discussed methods of sewage purification. The lecture was illustrated with lantern slides. About 100 members were in attendance.

North Dakota Good Roads Association.—At the meeting at Larrimore, June 16-17, the following resolutions were passed:

Whereas, The public highways of this State are in an undeveloped and primitive state and proper development would be the greatest boon that could happen to the farming interests upon which every other industry in the State depends; and

Whereas, Every State that has made good progress in the development of highways has done so under a system of State and County; therefore be it

Resolved, By this convention, that we are in favor of a revision of the laws in such a manner that our roads will be built under State supervision and the cost divided between the State, the county and the township; and

Whereas, The future generations will share the benefits of good roads; therefore be it

Resolved, That we are in favor of the issuing of bonds by the different political bodies to pay for their more rapid development; and

Whereas, The people of this State do not appreciate the importance of the good roads movement in the advancement of the material, moral and intellectual interests of the State as a whole, and the prosperity and happiness of the farmers in particular; therefore be it

Resolved, That the association call meetings in different parts of the State during the time intervening between now and the meeting of the next Legislature to the end that interest may be aroused and pressure brought to bear on our next Legislature to pass a law necessary to the proper construction of our State highways.

Sanitary Convention of American Republics.—The call for the Fourth International Sanitary Convention of American Republics to be held in San Jose, Costa Rica, December 25, 1909, to January 2, 1910, has been issued by Dr. Walter Wyman, of Washington, D. C., Chairman of the International Sanitary Bureau. In the provisional program for the convention a prominent place is given to consideration of practical means for the adoption of measures intended to obtain the sanitation of cities and ports.

Boston Society of Engineers.—About 125 members visited the Forest Hills terminal station of the Boston elevated at Forest Hills Square, June 16, and inspected the terminal. The concrete arches under the roadbed attracted the most attention, for it is a question with engineers how well the concrete will stand the jar of heavy trains running over it. The attaching of concrete to heavy structural steel, as at Forest Hills, is said never before to have been attempted in this country. Chief Engineer George A. Kimball was in charge of the party. After the inspection the men were the guests of Contractor Hugh P. Nawn at luncheon. The terminal will probably not be completed before September.

Mayors' Association of Arkansas.—Mayor Duley, of Little Rock, is considering the advisability of calling a convention of all the Mayors of the cities of Arkansas, to discuss plans for logical legislation affecting municipalities, and to organize a movement to secure legislation in 1911. He is especially interested in securing such legislation as he believes will better adapt the cities to observance of Sunday regulations. Mayor Duley is outspoken in favor of a very liberal Sunday, with baseball, well-regulated theaters, etc.

Washington Chamber of Commerce.—The Board of Directors have adopted a report of a committee which favors a change in the law governing the Humane Society. A draft of a bill has been prepared which reduces the powers of the Society. The main point of the bill is that it provides that the enforcement of the act shall be lodged in the Superintendent of Police instead of in the Humane Society and its agents. Another section provides that fines for cruelty to animals shall not be paid to the Humane Society, but to the District Fund. In the discussion of the bill it was stated that the charge had been made by horse owners that agents of the Society frequently trump up charges in order to swell the funds of the Society.

Calendar of Meetings

June 29-July 3.

American Society for Testing Materials.—Annual meeting, Atlantic City, N. J.—Edgar Marbury, Secretary, University of Pennsylvania, Philadelphia, Pa.

July 5-9.

Minnesota Firemen's Tournament Association.—Annual tournament, Crookston, Minn.

July 5-9.

Pacific Northwest Society of Engineers.—Annual meeting, Seattle, Wash.—A. H. Dimmock, Secretary, City Hall, Seattle, Wash.

July 6-9.

American Society of Civil Engineers.—Annual Convention, Mount Washington Hotel, Bretton Woods, N. H.—Charles Warren Hunt, Secretary, 220 West 57th street, New York, N. Y.

July 13-15.

Ohio Electric Light Association.—Fifteenth Annual Convention, Toledo, O.—D. L. Gaskill, Secretary, Greenville, O.

July 15-16.

American Society of Heating and Ventilating Engineers.—Summer meeting, Indianapolis, Ind.—W. M. Mackay, Secretary, P. O. Box 1818, New York, N. Y.

July 20-22.

Texas Mayors' Association.—Annual Convention, San Angelo.—Mayor F. C. Highsmith, President, Mineral Wells, Tex.

August 17-20.

International Association of Fire Engineers.—Annual Convention, Grand Rapids, Mich.—James McFall, Secretary, Roanoke, Va.

August 25-27.

League of American Municipalities.—Thirteenth annual convention, Montreal, P. Q., Canada.—John MacVicar, Secretary, Des Moines, Ia.

September 8-10.

New England Water Works Association.—Annual convention, New York City.—Willard Kent, Secretary, Narragansett Pier, R. I.

PERSONALS

BALCOM, WELLS ESTEE, San Francisco, Cal., has been appointed a member of the Board of Supervisors, succeeding Loring P. Rixford, who became City Architect.

BROWN, GEO. L., Mayor of Lowell, Mass., has been awarded a verdict of \$9,000 damages in a suit against a newspaper for libel.

DONNELLY, DANIEL J., Alderman of Boston, Mass., died June 23 at his home at Quincy.

HARTMAN, WILLIAM S., at present on the engineering staff of the Panama Canal, has been appointed City Engineer of Bozeman, Mont.

HARTZOG, B. L., Tuscumbia, Ala., has been appointed Chief of the Fire Department, succeeding J. W. Bowser, resigned.

HEYBURN, WM., Louisville, Ky., has resigned from the Board of Aldermen and John M. Scott named as successor.

HILLIARD, RUFUS B., City Marshal of Fall River, Mass., has been retired from the head of the Fall River Police Department, and will receive a pension of \$950 a year.

JONES, JOHN M., Sweetwater, Tenn., has been elected Mayor.

JORDAN, WM. S., Jacksonville, Fla., has been elected Mayor.

KIGER, JOHN W. M., Baltimore, Md., Secretary of the Health Department, has resigned.

LEACH, FREDERICK, Elmira, N. Y., formerly City Engineer, and recently Superintendent of Public Works of Hornell, N. Y., died on June 18 in Jersey City.

LEE, PATRICK, Captain of Police of New Britain, Conn., after forty years of regular police service, will retire July 1, and has been given three months' leave of absence and a pension by the Board of Public Safety, of which E. G. Hurlbut is Chairman.

LEVY, JOHN, Clinton, La., has been elected Mayor.

LIGHT, CHAS. P., Martinsburg, W. Va., has been appointed State Highway Commissioner, a new office created by the last legislature, with a salary of \$3,000 a year.

MASTERS, EUGENE, Mayor of St. Augustine, Fla., has been re-elected.

MEARS, GEO. W., Andover, Mass., has been appointed Chief of Police, to succeed L. D. Pomeroy, resigned.

MURRAY, T. AIRD, Toronto, Ont., has been appointed Consulting Engineer to the Provincial Board of Health of Saskatchewan, Can.

POLLARD, S. G., Cincinnati, O., Mechanical Engineer at the main pumping station on Easton avenue, will assume the duties of Geo. H. Benzenburg as Chief Engineer of the new water works department on July 1.

SNELL, JAMES R., Amsterdam, N. Y., Superintendent of the water works for fifteen years, has resigned.

SWANK, NOAH P., Johnstown, Pa., has been reappointed City Electrician for a term of three years.

SWEARINGEN, C. W., Great Falls, Mont., City Engineer, has resigned on account of ill health, and will be succeeded by Mr. H. C. Allen, formerly assistant city engineer of Great Falls and more recently city engineer of Glasgow, Mont. It is understood that after a rest Mr. Swearingen will be associated in consulting practice with Mr. C. B. McCulloh, until recently assistant city engineer.

WEED, HOWARD EVARTS, Chicago, Ill., delivered a lecture June 16th on "A More Beautiful Cedar Rapids," at the Cedar Rapids Public Library Auditorium.

WINN, WALTER E., Danville, Ill., has been appointed City Engineer of Danville by Mayor Lewis Platt.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
New York	Buffalo	July 1, 11 a.m.	Repair of timber and planking on roadway and walks of all bridges, approaches and viaducts for one year.	F. G. Ward, Com's Pub. Works.
Pennsylvania	South Fork	July 1	Paving 2,400 sq. yds. in Lake street.	Fetterman Eng. Co., Johnstown.
Texas	Galveston	July 1, noon	Brick with cement grout or asphalt filler or bitulithic, paving 11,820 sq. yds.; 420 ft. rein. concrete drains.	A. T. Dickey, City Engineer.
New York	New York	July 1, 3 p.m.	Furn. and delivering 10,000 gals. asphaltic road oil No. 1.	Henry Smith, Pres. Park Bd.
New Jersey	Northfield	July 1, 11:30 a.m.	Laying concrete walk and 4 driveways at County Buildings.	County Asylum Commissioner.
Michigan	Muskegon	July 1	Paving with macadam and tarvia, several streets.	B. H. Teilman, City Recorder.
Ohio	Columbus	July 2, noon	Macadamizing, grading, etc., 5 miles, Sunbury road; 23,800 cu. yds. fill; 7,200 cu. yds. gravel; 8,900 tons crushed limestone; 4,200 gals. "Tarvia" X, or its equal; 2,000 lin. ft. edging, set; vit. sewer pipe; grubbing, etc.	John Scott, Clk. Co. Comrs.
Ohio	Westerville	July 2, noon	Brick or block paving, curb, grading, etc., Walnut st.	Ellsworth Horlocker, Village Clerk.
Indiana	Morocco	July 2	Bldg. 11.5 miles macadam road McClellan and Colfax twps.	A. D. Peck, Supt. Constr., Co. Aud.
New Hampshire	Concord	July 2, 5 p.m.	Bldg. macadam roads in 3 towns; cost, \$10,500.	A. W. Dean, State Engr.
Pennsylvania	Edwardsville	July 2, 7:30 p.m.	Hillside block paving, Wainwright curb, etc., 1,150 lin. ft. Main st.	David Bolton, Chm. St. Committee.
Ohio	Paulding	July 2, 2 p.m.	Macadamizing, grading 2 pikes, 23,300 ft. long, \$14,721.	County Auditor.
Ohio	Akron	July 2, 11 a.m.	New floor system of creosote on 4 bridges.	Chas. L. Wirth, Clk. Co. Comrs.
New Jersey	Rutherford	July 2, 8 p.m.	Grading Erie ave. and Sunderland ave.	F. A. Stedman, Boro. Clerk.
Ohio	Greenwich	July 3	Constructing 8 miles of macadam road.	C. I. J. Brooks, Township Clerk.
Indiana	Crown Point	July 5, noon	Constructing 7 gravel roads.	Charles A. Johnson, Co. Auditor.
Indiana	Williamsport	July 5, 1 p.m.	Constructing crushed stone road in Adams township.	Robt. L. Winks, Co. Auditor.
Oklahoma	Oklahoma City	July 5	Paving, curbing, grading, draining, various streets.	Henry M. Scales, Mayor.
Indiana	Columbus	July 5, 10 a.m.	Bldg. 5,340 ft. macadam road and 6,676 ft. gravel road.	John M. Davis, County Auditor.
Indiana	Vernon	July 5, 11 a.m.	Bldg. 10,032 ft. pike road in Center and 9,240 ft. in Geneva twp.	T. L. Thomas, County Auditor.
New Jersey	Bayonne	July 6, 8 p.m.	Repaving Broadway from 1st st. to Canal bridge, 78,200 sq. yds. asphalt, bitulithic, bituminous concrete, curb, etc.	F. W. Dalrymple, City Engineer.
Indiana	Morocco	July 6	Bldg. 12 miles of macadam road, Jefferson twp.; \$34,116.	County Auditor, Newton County.
Indiana	Monticello	July 6, noon	Bldg. Swygman gravel road in Princeton twp.	J. L. Ackerman, County Auditor.
Indiana	Versailles	July 6, noon	Bldg. 10,926 ft. macadamized road in Dela. County.	Nicholas Volz, County Auditor.
Indiana	Vincennes	July 6, 2 p.m.	Bldg. gravel roads, 3 twps., 3,675 ft., 7,410 ft., 15,800 ft. long.	John T. Scott, County Auditor.
Ohio	Xenia	July 6, 10:30 a.m.	Bldg. macadam road, Beaver Crk. twp.; 4,878 cu. yds. stone.	Wm. Dadds, County Auditor.
Indiana	Mishawaka	July 6, 6 p.m.	Paving 6,000 sq. yds.; any hard material; all invited.	Wm. S. Moore, City Engineer.
Maryland	Centerville	July 6, noon	Bldg. Johnson Island Landing road, 178.2 perches long.	M. B. Bordley, Clk. Co. Comrs.
Indiana	Rushville	July 6, 10 a.m.	Bldg. 5,260 ft.; also 13,200 ft. gravel road in Center twp.	Jesse M. Stone, Co. Auditor.
Florida	Jacksonville	July 6, 2:30 p.m.	Grading, vit. paving block, 518,000 sq. yds. stone curb, 39,600 lin. ft., 14 streets.	Philip Prioleau, City Engineer.
Ohio	Defiance	July 6, noon	Paving three streets.	M. J. Walz, Clk. Bd. Pub. Service.
Ohio	Jefferson	July 6, 1 p.m.	Paving with shale blocks 2,293 ft. of Walnut st.	P. C. Remic, County Auditor.
Pennsylvania	Leeburg	July 6, 7:30 p.m.	Brick or block paving, 4,460 sq. yds.; curb, 3,280 ft., etc.	Robt. H. Wilson, C.E., Saltsburg.
Florida	Tampa	July 6	Hard surfacing 2 miles of road; macadam pavement 12 ft. wide, average depth, 6 feet.	E. J. De Vare, Clm. Co. Comrs.
Indiana	Rockville	July 6, 1:30 p.m.	Constructing 3 gravel roads for County.	H. A. Henderson, County Auditor.
Indiana	Madison	July 6, 1 p.m.	Bldg. 16 miles, also 2.11 miles gravel road, Graham twp.	G. F. Crozier, County Auditor.
Indiana	Bloomfield	July 6, 2 p.m.	Bldg. Welborn gravel road Center twp., Wollam in Jackson.	Peter M. Cook, County Auditor.
Indiana	Petersburg	July 6, 2 p.m.	Constructing various gravel roads.	Bd. Comrs. Pike County.
Iowa	Davenport	July 6, 2 p.m.	Vit. brick paving 8,154 sq. yds., 3 sts. and 3 alleys.	Thomas Murray, City Engineer.
Indiana	Huntington	July 6	Bldg. highway petitioned for by Stephen Weeks and others.	John W. Weaver, County Auditor.
Indiana	Fowler	July 6	Bldg. 3 roads in Richland and one in Union township.	Lemuel Shipman, County Auditor.
Indiana	Kentland	July 6	Bldg. macadam roads, 65,651 ft. long in Jefferson twp.	E. R. Bringham, County Auditor.
Kentucky	Southgate	July 6, 8 p.m.	Bldg. macadam roadway, cement curb and gutter, Ridgeway avenue.	W. L. Glazier, C.E., Newport.
Ohio	Defiance	July 6	Brick paving 25,000 sq. yds., 3 sts. and one avenue.	M. J. Walz, Clk. Bd. Pub. Service.
Pennsylvania	Millvale	July 6, 3 p.m.	Repaving, resetting curb, etc., Bridge st.	H. A. Dixon, Boro. Clerk.
New Jersey	Trenton	July 6, 8 p.m.	Sheet asphalt on 4-in. concrete, 3 sts.; repave one st.	Harry B. Salter, City Clerk.
Washington	Hoquiam	July 6, 6 p.m.	Paving, concrete sidewalks, sewers, etc., 7th st.; \$24,500.	Z. T. Wilson, City Clerk.
W. Virginia	Thomas	July 7, noon	Paving East Ave., macadamizing Spruce st.	George Martin, Mayor.
New York	Buffalo	July 7, 11 a.m.	Paving Goethe st. 26 ft. wide and repaving Main st. 40 ft. and Glenwood ave., 42 ft.	F. G. Ward, Com. of Pub. Wks.
New York	Brooklyn	July 7, 11 a.m.	Furn. and delivering 150,000 gals. asphalt and 150,000 gals. tar road oil; asphalt paving and repaving on concrete; lay sidewalks, regulating sts., etc.	Bird S. Coler, Boro. President.
New York	Buffalo	July 7, noon	Paving 2 sts. and repaving 2 sts.	F. G. Ward, Com'r Pub. Wks.
New York	Olean	July 7, 7:30 p.m.	Paving Main st. with vitrified brick.	E. B. Holmes, Clk. Bd. Pub. Wks.
Indiana	Logansport	July 7	Reflooring bridge over So. Br., Deer Creek with sec. wood blocks.	Geo. W. Cann, County Auditor.
New Jersey	Atlantic City	July 7, 11:30 a.m.	Grading and graveling Chestnut Neck road; \$1,000 check.	E. D. Rightmire, County Engineer.
New Jersey	Newark	July 8, 2 p.m.	Grading and paving with bituminous telford, River rd., Nutley.	Wallace O. Ringletree, Dir. Freeh'd's.
Ohio	Hicksville	July 8, noon	Paving Main st. with vit. brick or block.	O. P. Bevington, Village Clerk.
New York	Brooklyn	July 8, 3 p.m.	Macadam paving, grading, etc., Bay Ridge Parkway.	Henry Smith, Pres. Park Board.
New Hampshire	Merrimack	July 8	Grading and surfacing, with gravel, one mile of road.	A. W. Dean, State Engr. Concord.
Ohio	Youngstown	July 9, 1 p.m.	Bldg. macadam and brick road, Springfield twp.	Twp. Trustees, Springfield Twp.
Indiana	Kokomo	July 9, 10 a.m.	Bldg. 15,840 ft. gravel road, Howard and Clinton County line.	A. B. Easterling, Co. Auditor.
Utah	Salt Lake City	July 9, 4 p.m.	Bldg. 40 miles new sidewalks; cost, \$263,333.	L. C. Kelsey, City Engineer.
New Jersey	Elizabeth	July 9, 2:30 p.m.	Bldg. stone road with second course of amesite, 9,982 ft. x 16 ft.	F. J. Hubbard, County Engineer.
Ohio	Cincinnati	July 9, noon	Improving roads, Anderson, Colerain and Sycamore twps.	Stanley Struble, Pres. Co. Comrs.
Ohio	Dalton	July 10, noon	Improving Main st. from village line to prop. of Peter Kuren, Sr.	C. W. Horn, Village Clerk.
Minnesota	Ada	July 12	Constructing part of State road.	D. E. Fulton, County Auditor.
New Jersey	Paterson	July 12	Grading and macadamizing with oil binder certain roads.	Geo. W. Boddy, Clk. Bd. Freeh'd's.
Indiana	Jeffersonville	July 12, 11 a.m.	Bldg. crushed stone road 3.20 miles long.	Peter Nachard, Co. Auditor.
Pennsylvania	Harrisburg	July 12	Reconstructing road in Hempfield twp., Moreland Co.	Jos. W. Hunter, State Hwy. Com.
New York	Newburgh	July 12, 5 p.m.	Brick paving 4,600 sq. yds., reset curbs, etc., Broadway.	W. J. Blake, City Engineer.
Minnesota	Glencoe	July 12, 1 p.m.	Grading and graveling 5 state highways.	F. D. Stocking, County Auditor.
Ohio	Steubenville	July 13, noon	Paving State road to Mingo, 5,200 ft. long, bldg. retain. walls, etc.	Board of County Commissioners.
Indiana	Kokomo	July 13, 2 p.m.	Bldg. Henry E. Farwick et al gravel road on Co. line.	A. B. Easterling, Co. Auditor.
Pennsylvania	Williamsport	July 13, noon	Furn. bridge steel, beams, etc., planks, etc., and laying same.	A. P. Zuber, Clk. Co. Comrs.
New Jersey	Freehold	July 14, 11 a.m.	Bldg. gravel road in Shrewsbury and Wall townships.	E. E. Throckmorton, Co. Engr.
Ohio	Cleveland	July 14, 11 a.m.	Grading, draining, paving Gardner road in Euclid twp.	Wm. F. Black, Clk. Co. Comrs.
Ohio	Piqua	July 14, noon	Brick, tarvia, wood block, or other paving, etc., 5 sts.	W. B. Mitchell, Clk. Bd. Pub. Serv.
Kansas	Ft. Riley	July 15, 10 a.m.	Constructing about 17,000 sq. ft. concrete walks.	Capt. W. M. Whitman, Q.M.
Wisconsin	Oshkosh	July 15, 2 p.m.	Brick paving Main st., cement or stone curb and for grading and paving with cedar block So. Main st.	Board of Public Works.
Indiana	Huntington	July 15	Grading, graveling or macadamizing 2 highways.	John W. Weaver, Co. Auditor.
Pennsylvania	Pittsburg	July 16, noon	Bldg. road 4.04 miles long Forward twp.; 4.12 miles N. Vers.	Geo. T. Barnsley, Co. Road Engr.
Ohio	Orrville	July 17, noon	Brick paving and curbing 1-2 mile of road.	Bd. Comrs. Wayne County.
Ohio	Ottawa	July 17	Bldg. Levi Hummon road, 6,744 cu. yds. crushed stone, 27,000 ft. 4 to 8-in. farm tile, etc.	J. T. Maidlaw, Co. Engr.
Ohio	Columbus	July 19	Paving bridges and approaches; also subway.	F. M. Sayre, County Auditor.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
SEWERAGE				
Connecticut	New Haven	July 1, 2 p.m.	Bldg. sewers in St. Ronan and Ogden streets.	C. W. Kelly, City Engineer.
Pennsylvania	Duquesne	July 1	Constructing sewer in Meadow street.	Sewer Committee of Boro. Council.
New Jersey	Rutherford	July 2, 8 p.m.	Bldg. main outlet sewer in Pierrepont ave.	F. A. Stedman, Borough Clerk.
Missouri	Liberty	July 2, 5 p.m.	Bldg. sewers and appurtenances in Dists. Nos. 1, 2, 3 and 4.	E. H. Collins, City Engineer.
Kentucky	Louisville	July 2, noon	Bldg. 34th st. outlet sewer, Cont. No. 44; 600 ft. of 7 ft. rein. conc. sewer outlet in Ohio river; 1,000 cu. yds. conc.; 8,000 ft. piles.	W. C. Nones, Pres. Sewerage Bd.
Ohio	Toledo	July 2, noon	Bldg. brick or concrete sewer from filtration works to creek.	G. W. Tonson, Pres. Bd. Pub. Serv.
Utah	Salt Lake City	July 2, 8 p.m.	Bldg. pipe sewer in Extension No. 218 in Earl Court.	L. C. Kelsey, City Engineer.
North Dakota	Grand Forks	July 5, 4 p.m.	Replacing main sewer with brick masonry, rein. concrete or rein. concrete pipe, 350 ft. long.	W. H. Alexander, City Auditor.
North Dakota	Rugby	July 5, 8 p.m.	Constructing sewer system.	City Clerk.
South Dakota	Pierre	July 5, 8 p.m.	Constructing 2 1-2 miles of pipe sewer.	W. P. Little, City Auditor.
Delaware	Bridgeville	July 6, 8 p.m.	Constructing sewerage and water systems for town.	Haas Eng. Co., Bulletin Bldg., Phila., Pa.
Ohio	Jackson	July 6, noon	Constructing 3-4 miles of lateral sewers; others later.	J. W. Turner, Village Engineer.
Montana	Glendive	July 6, 10 a.m.	Constructing sewer in District 2 and 3.	T. F. Hogan, Mayor.
New Jersey	Trenton	July 6, 8 p.m.	Bldg. sewer in Garfield ave with house connections, etc.	Abram Swan, City Engineer.
Georgia	Moultrie	July 6	Furnishing material for 7 miles of sewers, W. D. Scott, Mayor.	H. S. Jaudon, C.E., Box 582, Savannah
North Dakota	Fargo	July 6, 5 p.m.	Bldg. 12-in. later sewers, in Roberts, First sts, etc.	N. C. Morgan, City Auditor.
New York	New York	July 6	Bldg. sewers in portions of W. 156th st. and 3d ave., outlet E. 118th st.	John F. Ahearn, Boro. President.
New York	New Brighton, S.I.	July 6	Bldg. 1,134 ft. 2 ft. 2 in. and 3 ft. 3 in. rein. concrete sewer, N. Y. ave., Dist. 6-B, also comb. and sanitary sewer; 4,513 ft., 6-20-in. vit. pipe.	Geo. Cromwell, Boro. President.
Washington	Hoquiam	July 6, 6 p.m.	Bldg. storm and sanitary sewers in 87th st.; storm J st., etc.	Z. T. Wilson, City Clerk.
Arkansas	Van Buren	July 7	Constructing 1,800 cu. yds. reinforced concrete culvert work.	P. D. Scott, Pres. Levee Bd.
Lake City	Lake City	July 7	Bldg. 8-in. vit. pipe sewer in portion of Illinois st.	J. M. Fickle, City Clerk.
Kentucky	Louisville	July 9, noon	Bldg. Sec. B, So. Louisville Branch sewer, Contract No. 45.	J. B. P. Breed, Chief Engr. Sew. Com.
New Mexico	Albuquerque	July 10	Constructing sewers; furnishing material, etc.	S. M. Gray, C.E., Providence, R. I.
Emmettsburg	Iowa	July 14, 1 p.m.	Building joint improvement ditches.	Sim R. Stedman, County Auditor.
New Jersey	Fort Hancock	July 16	Bldg. sewer outlet at Fort Hancock.	Lt. W. J. Hawkins, Q. M.
Indiana	Shelbyville	July 20	Bldg. sanitary trunk sewer system.	Harry J. Clark, City Clerk.
WATER SUPPLY				
Pennsylvania	Pittsburg	July 1, 10 a.m.	Furn. engine lathe, furn. and laying 60-in. riveted steel rising main with castings; laying 13,000 ft. 36-in. and 4,750 ft. 20-in. pipe.	Jos. G. Armstrong, Dir. Dept. Pub. Wks.
Philippine Is.	Manila	July 1, noon	Furn. gate valves, air valves and fire hydrants for city.	B. M. Hall, C.E., Int. Dept., Wash. D.C.
Missouri	Carthage	July 1	Three 750 horse-power water-tube boilers.	W. A. Turner, Secy. Bd. Pub. Wks.
Missouri	Carthage	July 2	Two 2,000,000-gal. cross comp. condens. pump engines.	W. A. Turner, Secy. Bd. Pub. Wks.
Saskatchewan	Battleford	July 2, 8 p.m.	Bldg. w.w.; excav. and pipe laying; pump house and power house; steel stand pipe; concrete foundation; housing for stand pipe; furn. c. i. pipe and specials; furn. hydrants, valves and boxes; furn. and erect. pumping machinery; boilers; steam engines; electrical equipment.	S. Cookson, City Secretary.
South Dakota	Fort Meade	July 2, 10 a.m.	Bldg. intake dam and pipe line for water system.	Constructing Quartermaster.
Utah	Salt Lake City	July 2	Constructing No. Temple st. aqueduct across street.	L. C. Kelsey, City Engineer.
Ohio	Rockport	July 2, 3 p.m.	Labor and mat. for 12-in. main in Linndale and Settlement rds.	Wm. Dahm, Clk. Bd. Pub. Affrs.
Ontario	Chapleau	July 5, 8 p.m.	Sections of w. w. system; pipe laying; pump house; water tower; c. i. pipe and specials; hydrants, valves, etc.; steam pump; 2 boilers.	W. H. Farrell, Town Clerk.
South Dakota	Gregory	July 5	Constructing water works to cost \$4,500.	G. Gwaner, City Auditor.
Missouri	Carthage	July 5	Laying water mains and constructing pumping station.	W. A. Turner, Secy. Bd. Pub. Wks.
Oklahoma	Marlow	July 5	Furn. 5,000 ft. 4-in. standard c. i. pipe, 22 lbs. per ft., smooth and uniform; also fittings, valves, fire hydrants, lead & jute.	J. W. Steel, Chm. Lt. & Wtr. Com.
South Dakota	Pierre	July 5	Furnishing 3,900 ft. 4-in. c. i. water pipe, 200 ft. 6-in. black pipe, 300 ft. 4-in. black pipe, 1,600 lbs. lead, etc.	C. W. Rastall, Supt. Indian School.
Wisconsin	Spooner	July 5, 8 p.m.	Constructing 2,700 ft. 4-in. c. i. water main, 300 ft. 6-in. and 6 hydrants.	John Stewart, Village Clerk.
Iowa	Atlantic	July 6, 6 p.m.	Laying water mains, etc.	T. E. Nichols, City Clerk.
Massachusetts	Holyoke	July 6	Changing over entire system of hose and hydrant couplings from Universal Clutch to standard coupling, 7 1-2 threads to inch or other first-class couplings, inc. 24,000 ft. 2 1-2 in. hose and 1,541 outlets on hydrants.	John Hildreth, Sec'y Fire Comrs.
Delaware	Bridgeville	July 6, 8 p.m.	Constructing water and sewerage systems for town.	R. R. Layton, Sec'y Town Board.
Pennsylvania	Millvale	July 6, 3 p.m.	Furn. and placing 2,000,000-gal. pump at pumping station.	Burgess and Town Council.
Florida	Jacksonville	July 6, 3 p.m.	Bldg. rein. concrete bldg. 30x40 ft., one story high and concrete foundation for two pumps; R. N. Ellis, Supt.	Bion H. Barrett, Chm. Board Trus.
Indiana	South Bend	July 6, 10 a.m.	Bldg. water connection on Webster st., Sample st., to Ry.	W. A. McInerney, Chm. Bd. Pub. Wks.
New York	Peekskill	July 6, 3 p.m.	Bldg. concrete dam inlet house, etc.; \$10,000 bond.	Lanning G. Roake, Supt. W. W.
Iowa	Woodward	July 7	Constructing water works.	Chas. Howarth, City Clerk.
New York	Gowanda	July 7, 3 p.m.	Bldg. storage reservoir, inc. piping, etc.; also for 3 horizontal tubular boilers at State Homeopathic Hospital.	F. B. Ware, State Architect, Albany.
Kentucky	Newport	July 8, noon	Furn. material and labor for 5,000,000-gal. vert. high-duty pump, engine, laying 13,050 ft. 20-in. c. i. pipe, inc. specials, etc.; steel stand pipe on steel-braced tower; John W. Hill & Sons, Engrs., First National Bank Bldg., Cincinnati, Ohio.	Commissioners of Water Works.
New York	West Carthage	July 9, 6 p.m.	Laying 3 1-2 miles 8 and 10 in. c. i. pipe, building head works and stand pipe foundation for water works extension.	W. A. Porter, Pres. Village Trustees.
Ohio	Logan	July 10, noon	Furnishing material and extending water system; \$1,000 bond.	M. E. Moe, Clk. Bd. Pub. Affrs.
New York	New York	July 14, 2 p.m.	Furn. and install 2 dir-con. elec.-driven, vert. pump engines, complete, inc. electric lights, in pump sta. for sewage disposal plant at Mt. Kisco.	John H. O'Brien, Comr. W. S. G. & E.
New York	Brooklyn	July 14, 2 p.m.	Furn., del. and laying water mains, 4th ave. and 1st st., Bklyn.	John H. O'Brien, Comr. W. S. G. & E.
Georgia	Moultrie	July 14	Furn. c. i. pipe, 429 tons, 3,6, 10-in., 10 tons specials; 46 hydrants and 34, valves and boxes, rein. concrete tower and tank and pumping engine for ext. w. w. system; H. S. Jaudon, Box 582, Savannah.	W. D. Scott, Kayor.
Kansas	Osage City	July 15	Constructing water works plant to cost \$8,000.	Burns & McDonnell, Engrs., Scarritt Bldg., Kansas City, Mo.
Ohio	Delta	July 15, noon	Bldg. municipal water plant with deep wells as source of supply and 5 1-3 miles 4-10-in. c. i. pipe; Riggs and Sherman Co., Engrs., 613 The Nasby Bldg., Toledo.	W. C. Hoch, Clk. Bd. Pub. Affairs.
Dist. Columbia	Washington	July 19	Furn. machinery for central pumping station and 3 pumping units for hydraulic excavating and sluicing, including pumps and motors, engines, boilers, etc.	Purchasing Agt., Isthmian Can. Com.
New Jersey	Burlington	July 26, 3 p.m.	Bldg. 3,000,000-gal. mech. filtration plant of concrete.	George A. Allinson, Supt. W. W.
BRIDGES				
New York	Long Island City	July 1	Bldg. Hunts Point ave. bridge over Dutchkills, Queens Boro.	J. W. Stevenson, Com'r Bridges, New York City.
New York	Buffalo	July 1	Repair of timber and planking of roadways and walks of all bridges and approaches and walks and stairways of all viaducts of city until June 30, 1910.	F. G. Ward, Com'r Pub. Wks.
Pennsylvania	Pittsburg	July 1, noon	Furn. 100,000 ft. bm., white oak road plank.	R. J. Cunningham, Co. Auditor.
Pennsylvania	Sewickley	July 1, 2 p.m.	Bldg. \$550,000 cantilever bridge, 6 approach spans, 2 anchor and cantilever arms, 1 suspended span; sub. of 2 conc. abuts., 8 conc. pedestals carrying 4 steel bents and 2 sandstone masonry channel piers, both with concrete; super wt. 9,000,000 lbs.; sub. 6,300 cu. yds. masonry; 7,000 cu. yds. concrete; 13,000 lbs. steel reinforcing; 300 tons macadam crushed limestone; 500 sq. yds. brick paving.	J. G. Chalfont, County Engineer.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
BRIDGES—Continued				
Pennsylvania...	Reading.....	July 1, 10 a.m.	Bldg. rein. concrete arch bridge over creek; 50 ft. clear span, 6-ft. rise; 20-ft. roadway bet. parapet walls; 2 abutments, 4 wing walls with parapet wall.	A. R. Rhoades, County Controller.
Ohio.....	Toledo.....	July 1, noon	Labor and material for rein. concrete arch bridge (except lift draw); also foundations, piers, apparatus, etc.; for bridge over Maumee river at Main St.; \$525,000 available; check, \$50,000.	Reynold Voit, Sec'y Bd. Pub. Serv. S. G. Zimmerman, County Clerk.
Kansas.....	Topeka.....	July 2, noon	Constructing 150 ft. span steel bridge over Camp Creek.	James A. Wensel, Clk. Co. Comrs.
Pennsylvania...	Lock Haven.....	July 2, 1:30 p.m.	Bldg. steel highway bridge over Fishing Creek, Green twp.	John McGregor, Clk. Twp. of McNab.
Ontario.....	Stewartville.....	July 3, 6 p.m.	Bldg. steel bridge, 3 spans, concrete piers and abutments.	Macallum & McAlister, Engrs., Continental Life Bldg., Toronto.
Ontario.....	Arnprior.....	July 3	Bldg. steel pier on concrete piers and abutments.	J. D. Mitchell, Engr., Greenway.
Arkansas.....	Piggott.....	July 3	Bldg. 100-ft. steel truss bridge over Quick's crk., near Greenway.	S. S. Griffin, Clk. Co. Supervisors.
Louisiana.....	Amite City.....	July 3	Repairs on steel bridge over Tangipahoa river at Independence.	L. S. Howard, Clk. Co. Supervisors.
Mississippi.....	Yazoo City.....	July 5	Constructing bridge over 4 creeks for Yazoo County.	John S. King, Clk. Bd. Supervisors.
Mississippi.....	West Point.....	July 5	Bldg. wooden bridge 60 ft. long over Houlika Creek.	W. R. Pistole, Chancery Clerk.
Mississippi.....	Grenada.....	July 5	Bldg. rein. concrete bridge over Spring Lake, wood bridge over creek.	O. D. Garrett, County Auditor.
Massachusetts...	Meridian.....	July 5, 2 p.m.	Bldg. steel bridge over Tallahatta Creek; also wooden bridge.	W. H. Hodge, City Clerk.
Indiana.....	Bluffton.....	July 5	Bldg. new plate girder, double 75-ft. span bridge over river.	
Washington.....	Centralia.....	July 6	Material and labor for 8 bridges over China Creek.	
Kansas.....	Leavenworth.....	July 6	Bldg. steel bridge No. 280, 130 ft. long, on concrete piers and abut., No. 228; 70-ft. span, 15-ft. approach; No. 298: 70-ft. steel span; each 14-ft. roadway and rein. conc. floor; alt. bids on concrete arched culverts.	J. W. Niehaus, County Clerk.
S. Carolina.....	Yorkville.....	July 6	Bldg. bridge over Bullock's creek, at Barret's Mill.	Clem F. Gordon, Co. Supervisor.
Indiana.....	Greenfield.....	July 6, 10 a.m.	Bldg. concrete-steel and concrete bridge for county.	Charles H. Troy, County Auditor.
Ohio.....	London.....	July 6	Constructing sub-structure and appurtenances for bridge over Bradford Creek.	J. Shaffer, County Auditor.
Ohio.....	Fremont.....	July 6	Constructing steel truss bridge.	
Indiana.....	Monticello.....	July 7, noon	Constructing stone abutments for 19 bridges, repairing two.	L. J. Ackerman, County Auditor.
No. Carolina.....	Franklinton.....	July 7	Bldg. bridge over Tar river 380 x 12 ft., all wood, or 100-ft. steel.	J. H. Buck, Bd. Co. Supervisors.
Washington.....	Spokane.....	July 7	Bldg. rein. concrete bridge at E. Olive st.	J. T. O'Brien, Sec'y Bd. Pub. Wks.
Pennsylvania...	Washington.....	July 7	Bldg. 4 plate girder bridges, 39 to 52 ft. long, one riveted Pratt truss bridge, 85 2-3 ft. span; all with concrete abutments and brick and concrete floors.	Caney & Armstrong, Co. Engrs.
Mississippi.....	Hazlehurst.....	July 8	Bldg. steel or cable bridge over Homochetto river.	M. E. Ford, Bd. Co. Supervisors.
Minnesota.....	Minneapolis.....	July 8	Erecting iron and steel superstructure for bridge over river.	Board of County Commissioners.
South Dakota.....	Plankinton.....	July 8, 2 p.m.	Bldg. 3 steel truss bridges on stone abutments.	C. E. Archer, County Auditor.
West Virginia.....	Barboursville.....	July 8, noon	Bldg. iron and steel superstructure for highway bridge over Guyandotte river.	Cabell County Commissioner.
North Dakota.....	Fargo.....	July 9	Bldg. 5 new bridges, 140, 130, two 100 and 20 ft. long; repair 5.	Arthur G. Lewis, Co. Auditor.
Pennsylvania...	Butler.....	July 9	Bldg. 4 steel bridges, 3 concrete subs and one masonry.	Board of County Commissioners.
Quebec.....	Metapedia.....	July 9, 4:30 p.m.	Bldg. highway approaches to proposed bridge.	Secy. Dept. Pub. Wks., Ottawa.
Indiana.....	Shelbyville.....	July 10, 10 a.m.	Bldg. concrete bridge at Rushville pike crossing.	G. B. Hinliger, County Auditor.
Virginia.....	Leesburg.....	July 10	Bldg. iron or concrete bridge over Tuscarora creek, one mile east; also iron bridge over creek 7 miles from Ashburn.	T. E. Little, Chm. Co. Comrs.
Idaho.....	Hailey.....	July 10	Constructing bridge over Aubrey creek.	Board of Co. Commissioners.
North Dakota.....	Valley City.....	July 10	Constructing steel bridge over Cheyenne river.	C. W. Nelson, County Auditor.
Wisconsin.....	Elcho.....	July 12, 2 p.m.	Constructing stone abutments under Port Lake bridge.	Chas. Beard, Chairman.
Indiana.....	South Bend.....	July 12, 11 a.m.	Bldg. 8 concrete I-beam bridges.	John W. Harbou, County Auditor.
Oklahoma.....	Frederick.....	July 13	Bldg. 4 combination bridges: 40-ft. span with two 20-ft. approaches, two 30-ft. spans, 10-ft. approaches, 30-ft. span.	John B. Darden, County Clerk.
Illinois.....	Danville.....	July 14, 1 p.m.	Bldg. steel bridge over Little Vermilion river, 80 ft. c. to c., concrete abutments, 2,530 cu. yds. approach grade, 40 ft. 44-in. c. i. pipe, Fisher & McCann, Engrs., Garrett Bldg.	
Minnesota.....	Red Wing.....	July 14, 7:30 p.m.	Bldg. riveted 90-ft. through span steel bridge, concrete abut.	S. K. Van Fleet, Clk. Bd. Co. Comrs.
Washington.....	Bellingham.....	July 16, 2 p.m.	Removing draw bridge to new channel of Nooksack river at Manetta, bldg. wing dams, approaches, etc.; also new pile bridge.	E. C. Erbe, Pres. Bd. Pub. Wks.
California.....	Los Angeles.....	July 19	Bldg. rein. concrete arch viaduct: 2 abut. and 6 piers, supporting 7 spans 969 ft. long, 70 ft. wide; 465 found. piles, 283 tons steel reinforcing, 14 trusses, 585 ft. long, 18,240 cu. yds. concrete, 1,199 sq. yds. concrete surface, 18,260 cu. yds. arch filling.	Alex. Van Wyck, Co. Auditor.
Ohio.....	Cambridge.....	July 20, 11 a.m.	Iron or steel bridge to span Wills Creek, Byesville, masonry sub.	H. B. Ferris, Sec'y Bd. Pub. Wks.
Minnesota.....	Minneapolis.....	Sept. 1	Furn. designs, detail plans, etc., for several bridges.	Bd. County Comrs., Guernsey Co. Board of Park Commissioners.
LIGHTING AND ELECTRICITY				
Massachusetts...	Boston.....	July 1	Lighting sts. with gas for 5 years from Sept. 15; 20 to 50 lights; bidders to furnish apparatus for practical tests.	Guy C. Emerson, Supt. Streets.
Indiana.....	Indianapolis.....	July 2	Electric wiring and conduits for new City Hall building.	Blaine H. Miller, City Engineer.
New York.....	New York.....	July 7	Furn. electric lamps to Bellevue and Allied Hospitals.	John W. Brannan, Bd. Trus. Bel. Hos.
Dist. Columbia.	Washington.....	July 10, 11 a.m.	Furn. one 1,000 & two 1,500 k.w. turbo-alternators, navy yard.	Admiral R. C. Hollyday, Navy Dept.
Pennsylvania...	Philadelphia.....	July 10, 11 a.m.	Furn. motor generator sets, exciter, switchboard, etc., \$17,500.	R. C. Hollyday, Nav. Dept., Wash., D.C.
Minnesota.....	Shakopee.....	July 13	Furn. 50-h.p. generator for the electric light plant.	C. J. Welland, City Recorder.
Ohio.....	Rathbone.....	July 16, 1 p.m.	Furn. and erecting electrical machinery, wiring, conduits, etc., changes and additions in steam-heating, piping, trenching and conduits; Girls' Industrial Home.	
South Dakota.....	Pierre.....	July 28	Furn. and install electric fixtures at new Capitol bldg.	T. F. Dye, Secy. Trus. Indus. Home.
Kentucky.....	Cynthiana.....	Aug. 2, noon	Lighting sts., alleys and public places for 6 or 10 yrs. from Apr. 1, 1910, with 40 or more arcs or 90 or more 40 c.p. incandescent; light for all and every night or dark nights only; further information of W. W. Van Doren.	John Hirming, Secy. Capitol Ccm.
Manitoba.....	Winnipeg.....	Aug. 2, 11 a.m.	Bldg. and erecting hydraulic, electric and auxiliary equipment of municipal generating station on Winnipeg River.	W. M. Moore, Chm. Finance Ccm.
Manitoba.....	Winnipeg.....	Aug. 16	Five 3,000 k.w. generators, two 250 k.w. generators, etc.; six step-up transformers; light, heat, and power systems; protective apparatus; 3 electric traveling cranes; auxiliary apparatus Smith, Kerry & Chace, Engrs., Toronto, Ont.	H. N. Ruttan, City Engineer.
MISCELLANEOUS				
Michigan.....	Grand Rapids.....	July 1, 8 p.m.	Furn. and erect. brick or rein. concrete chimney, 225x10 ft.	M. Peterson, Sec'y Bd. Control.
New York.....	New York.....	July 1, 10:30 a.m.	Furn. and delivering supplies for fire alarm telegraph, Bklyn and Queens, also for volunteer system in Queens.	S. A. Freshney, Gen. Mgr. Bd. Pub. W.
New Jersey.....	Jersey City.....	July 1, 4 p.m.	Repairing wall of roadway, Weehawken br., Hudson blvd.	Nicholas J. Hayes, Fire Comr.
Texas.....	Pittsburg.....	July 1	Constructing dam and waterway of Ferndale Lake; 8,000 cu. yds. earthwork, driving 250 ft. sheet piling.	Walter O'Mara, Clk. Freeholders.
Dist. Columbia.	Washington.....	July 1, 2 p.m.	Furn. 15,000 ft. 2 1-2 in. cotton, rubber-lined hose during year.	J. F. Reynolds, Pres. Ferndale Lake Club.
Dist. Columbia.	Washington.....	July 1, 10:30 a.m.	Furn. valves for controlling main culverts of locks of Isthmian canal, inc. structural material, castings, bolts, washers, rubber, etc.	H. B. F. Macfarland, Chm. Bd. Comrs.
Mississippi.....	Vicksburg.....	July 1	Constructing 290,000 yds. of levee work for Third District.	Capt. F. C. Boggs, Isthmian C. C.
North Dakota.....	Maddox.....	July 1, 2 p.m.	Erecting cement block bldg., 26 x 40 x 14 ft. for village.	Capt. Clark Smith, Third Levee Dis.
Ohio.....	Upper Sandusky.....	July 1, noon	Preparing and constructing necessary maps and plats to enable several dist. assessors to reappraise all real estate in 1910.	E. R. Brown, Village Clerk.
Wisconsin.....	Two Rivers.....	July 2, 7:30 p.m.	Constructing new dock on north side of West Twin River.	W. J. Lowry, Chm. Bd. Co. Comrs.
Pennsylvania...	Pittsburg.....	July 6, 10 a.m.	Bldg. concrete retaining wall at Marshalsea Home.	Wm. Luebke, Chm. Bd. Pub. Wks. R. Walters, Dir. Dept. Charities.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
MISCELLANEOUS—Continued				
New Jersey	Hasbrouck Hts.	July 6, 4 p.m.	Deepening and straightening main Riser Ditch, 30,000 cu. yds. excav., etc.; bldg. tide gate and levee, 1,000 cu. yds.; excav. 1,600 cu. yds. filling; lateral ditch No. 1; 6,000 cu. yds. excav.; Lat. Ditch No. 2; 14,000 cu. yds. excav., etc.	Robt. L. Craig, Sec'y Drain. Com. G. W. Smith, Mayor.
Virginia	Lynchburg	July 8	Franchise for street railway in 17th and other streets	Jens Jorgenson, Clk. Sawyer Co.
Wisconsin	Haywood	July 8, 2:30 p.m.	Erecting County jail and sheriff's residence	W. B. Fawcett, Sec'y Bd. Pub. Wks. Wm. A. Hopson, Chm. Fire Dept. Com.
California	Oakland	July 9 11 a.m.	Furn. and hiring to city equipment and men for sprinkling streets for one year to June 30, 1910.	James H. Malone, Mayor. Fred Helmer, Village Clerk.
New Jersey	Paterson	July 9, 8 p.m.	Erecting new fire engine house; Wm. T. Fanning, Architect.	J. E. Sheldon, Water Commissioner
Tennessee	Memphis	July 10	Erecting 2 story brick annex to City Hospital.	D. A. Haggerty, C. k. Fire Comrs.
New York	Phelps	July 12	Erecting new village building.	F. C. Stevens, Supt. Pub. Wks.
Massachusetts	Holyoke	July 12	Automobile 4 cylinder, two seats, removal tonneau.	E. W. Hirsch, Sec'y Bd. Pub. Serv.
New Jersey	Hoboken	July 12, 2 p.m.	Furn. first size steam fire engine, water tube engine; also 75 ft. aerial hook-and-ladder truck with self-raising device.	Fiscal Gen. Insp. of Police. Election Commissioners.
New York	Albany	July 13, noon	Contracts A, B, C and D, No. 20 and No. 23, Erie Canal.	
Ohio	Columbus	July 15, noon	Bldg. concrete retaining wall, Contract No. 18, inc. 800 cu. yds. excav., 765 cu. yds. loam, 1 acre seeding, 220 sq. yds. sodding, 800 cu. yds. concrete, 2,000 lbs. twisted steel rods.	
Uruguay, S. A.	Montevideo	July 28	Furn. 2,400 canvas uniforms for city police; 2,400 pairs leggings, 4,000 blouses for rural police; and 3,200 summer helmets, as per specifications, Cuareim No. 254.	
Illinois	Chicago	Sept. 15	Furn. voting machines up to \$400,000 value.	

STREET IMPROVEMENTS

Birmingham, Ala.—City is considering the improvement of 17th, 48th and 50th sts., Highland ave., Huntsville road and other thoroughfares.

Chico, Cal.—Extensive improvement of the unaccepted streets of city is to be made by the city, operating under the Local Improvement Act of 1901, as at Woodland, if the present arrangements carry; Council has adopted a resolution naming the streets to be graveled and graded and requesting City Engineer M. C. Polk to file a report of cost and best method of the improvement; work is so that the streets may be improved and accepted under the proposed \$150,000 bond issue; these improvements are to be made on portions of Pine, Olive, Orient, Ivy, Cherry, Orange, Cedar, Walnut, Rose, Palm, Sierra, 1st, 3d, 4th, 5th, 6th, 7th, 8th, Rio Chico, 9th, Dayton, 10th, and Oak sts.; parts of streets and intersections hitherto improved and accepted, and the California and Oregon Railway, are excluded.

Downieville, Cal.—The County Surveyor of Sierra County has been ordered to make a definite survey, with profiles and cross sections of the route of the proposed road from Goodyear Bar to the Yuba County line, and submit a full report of it to the Board of Supervisors, together with an estimate of the amount of work and its cost, at the earliest possible moment.

Oakland, Cal.—City Superintendent of Streets Howe has obtained the passage of a resolution by the Board of Works requesting Council to appropriate from the street fund the sum of \$10,000 to be used in oiling the streets of the city; provision is also made for experiments with a liquid chemical compound which, it is believed, will prove to be a good dust-laying agent; some of this solution will be sprinkled on the streets, and should it prove effective a large supply will be purchased by the city.

Oakland, Cal.—Assistant City Engineer W. N. Freckstad has completed a comprehensive report concerning proposed street improvements; he recommends the immediate paving of East 12th st. from the Boulevard to 1st ave. and East 14th st. from 13th ave. to 21st ave.; also permanent crossings at East 15th, 6th and 18th sts., 5th and 8th aves., and curbing on East 15th st., 2d and 4th aves. and portions of many other avenues.

San Bernardino, Cal.—Fourth st., between D and E, will be the first block of city streets to be improved under the campaign for improvements that has been going on for some time, it being decided to go ahead with the work of resurfacing that thoroughfare as quickly as possible.

San Bernardino, Cal.—The committee consisting of Dr. S. S. Smith, E. J. Gilbert and John Anderson, Jr., which recently was appointed by the 4th st. property owners to visit the surrounding towns and investigate which kind of paving is giving the best result has reported back that the oiled macadam is by a long way the most desirable and doubtless that will be the kind of paving put in on that thoroughfare.

San Diego, Cal.—The Board of Supervisors has announced August 3 as the date for the special bond election for voting \$1,250,000 for good roads building, as outlined by San Diego County's Highway Commission, composed of John D. Spreckels, E. W. Scripps and A. G. Spalding. Public sentiment favors the bonds.

San Francisco, Cal.—The neglected sidewalks in the downtown district are to receive the attention of the city authorities unless the property owners put them in such shape as to make them passable; the Board of Public Works has passed a resolution directing the Secretary to notify owners to reconstruct sidewalks in front of their property at once.

San Francisco, Cal.—The plans and specifications submitted by Engineer Barker for paving 2d st., from King st. south to the bulkhead wharf, at an estimated cost of \$6,600, have been approved, and Secretary Thorpe instructed to advertise for proposals for the work for the Board of Harbor Commissioners.

San Jose, Cal.—Second st. property owners are discussing the paving of street.

South Pasadena, Cal.—The City Trustees have decided to purchase Sunset lot for the streets in such quantities as needed.

Dover, Del.—The State Road Commission has rejected all bids for the construction of two miles of macadam road from Hickory to Forrest Hill; lowest bid was \$11,000 per mile.

Milford, Del.—Town Council has passed an ordinance compelling property owners to lay cement sidewalks.

Manatee, Fla.—Board of County Commissioners will vote on \$250,000 bonds for road and street improvements.—M. C. Davis, Chairman.

Augusta, Ga.—Council without discussion reversed its former order to park the center of the 1200 block of Broad; instead, the block was ordered paved from curb to curb, and the work is to proceed right away.

Columbus, Ga.—Muscogee County Commissioners, E. J. Rankin, Chairman, have adopted plans by J. R. Hall, Engineer, Atlanta, for improvement of Wynnton road.

Decatur, Ga.—DeKalb County Board has decided to macadamize Peachtree road at a cost of about \$60,000.

Jackson, Ga.—A bond issue for \$100,000 is the next step in the good roads campaign in Butts County; citizens have passed resolutions that a bond issue be voted.

Moultrie, Ga.—Bids will be received July 1, noon, for \$5,000 street improvement bonds.—W. D. Scott, Mayor.

Sandpoint, Ida.—Citizens have voted to issue \$10,000 bonds for street improvements.

Aledo, Ill.—The Village Board has passed an ordinance to issue \$3,000 bonds for constructing sidewalks.

Belleville, Ill.—Council has ordered granitoid sidewalks laid on Main and Illinois sts.

Bushnell, Ill.—Bids will be called for in July for 1½ miles of brick pavement, on a 3-in. sand cushion, laid with concrete curb and gutter.—W. H. Dawson, City Clerk.

Carmi, Ill.—Council is considering the paving of three miles of street with brick including the entire length of Main st.

Peoria, Ill.—The Trustees of East Peoria have asked permission of the Peoria Council to improve their own streets.

Ft. Wayne, Ind.—The Board of Public Works has passed resolutions for 10,000 yds. of paving on Calhoun st., 2,500 yds. on Berry st. and 3,000 yds. on Columbia st. Sheet asphalt, asphalt block, creosote wood, brick and vitrified shale block are specified.—H. W. Becker, City Clerk.

Hammond, Ind.—City Engineer Lyons is drawing plans for sidewalk improvements on Logan st.; plans and specifications for the Waltham st. pavement have been accepted and approved by the Board of Pub-

lic Works.—Adam R. Ebert, Chairman.

Indianapolis, Ind.—The Board of Public Works is considering the following resolutions: Kentucky ave., from White River Bridge to Howard st., paved; Lowell ave., from Hawthorne lane to Arlington ave., paved; Grace st., from English ave. to Newton ave., cement walks and curb; first alley west of Alabama st., from South st. to first alley south of South st., paved; Catherinewood ave., west side, from Washington st. to Julian ave., cement walks; first alley west of East st., from first alley south of 10th st. to second alley, paved; first alley east of Liberty st., from Lockerbie st. to Vermont st., paved, and second alley south of 10th st., from New Jersey st. to East st., paved.

Indianapolis, Ind.—Resolutions have been adopted by the Board of Park Commissioners for the continuation of the boulevard system along the north bank of Fall Creek; a public hearing on the question will be held July 23, at which time it will be decided whether or not the work is to be done.

Indianapolis, Ind.—The Board of Public Works has ordered plans for cement walks on Mulberry st. from McCarty to Poplar sts.; also adopted resolutions for the improvement of Vermont, Barley and Georgia sts. and Washington Boulevard.

Vincennes, Ind.—City Civil Engineer Hershey has submitted his estimate of the cost of improvements ordered on Depot st. from 2d to the Union Depot platform and on Sycamore st. from 2d to 4th st. The estimate on Depot st. is \$2,362.67, and on Sycamore st., \$1,439.53.

Council Bluffs, Ia.—Paving of 5th ave., from 14th st. to 21st st., has been asked in a petition presented to Council, signed by E. Pill and a number of other property owners on 5th ave.

Davenport, Ia.—The following paving has been ordered by Council: Brown between 7th and 8th, alley between Harrison and Main, High and Lombard, alley between Scott and Western ave., 14th and 15th sts., 13th between Rock Island and Iowa.

Iowa City, Ia.—A petition is being circulated by Dr. L. L. Branson and others interested for paving on East Burlington st. from Johnson to Summit st.

Iowa City, Ia.—Plans are being prepared by City Engineer J. O. Schulze for eight blocks of brick paving.

Keokuk, Ia.—Council has passed preliminary resolution to reconstruct 5 miles of old macadam streets with macadam and binder.—J. Ross Robertson, City Engineer.

Washington, Ia.—Council is considering the paving of South Iowa ave.

Hutchinson, Kan.—City is considering the paving of seventeen blocks of street and ten blocks of alley pavement; material not yet selected.—G. L. McLane, City Engineer.

Leavenworth, Kan.—The Board of Commissioners is considering the improvement of the following streets: Cherokee st., repaved, from Main st. to Broadway, Osage st. from Broadway to 12th st., curbing of Marshall from 5th ave. to 7th st., Prospect st. to 5th ave., Elm st. from 2d to 4th sts., Chestnut st. from 7th st. to Broadway, Linn from 4th st. to 2d ave., for repaving of 3d st. from Walnut st. to Elm and from Shawnee to Pawnee st., Walnut st. from 7th to Broadway, Elm from 2d to 4th, 5th to Thornton st. and Elm from Main to 2d st.

Leavenworth, Kan.—Joseph O'Neill, City

Engineer, has prepared detailed plans and estimates for the paving of 7th st. from Kiowa to Metropolitan ave.

Topeka, Kan.—The property owners in the Holman addition neighborhood are agitating the question of putting in a good wearing surface between the Kansas Avenue Bridge and the end of the brick paving on the avenue; this distance is about 1,100 ft.; with this for a length and a 30-ft. width, an asphalt surface, with suitable binding material, would cost about \$750, according to the estimates made; with a width of 40 ft. and the same length, it is estimated that for all labor and same material the cost would be about \$1,000.

Bowling Green, Ky.—Council has directed the City Engineer to purchase 20,000 gals. of oil for the purpose of oiling the streets; the city made an experiment of this last year, and several miles of streets were oiled.

Winchester, Ky.—The Committee on Red House and Boonesboro pike has been empowered by Fiscal Court to finish opening road from Shearer to Boonesboro, build bridge over Otto Creek and make improvements at cost of \$4,500.

New Orleans, La.—City Engineer Hardee has estimated the cost for the city's share for the paving of both sides of St. Claude st. from Delery to Montegut st., at \$260,000; contract embraces 39 blocks of paving, about 4.70 miles.

New Orleans, La.—The City Engineer has submitted plans and specifications for the paving with asphalt of Chartres st. from Elysian Fields st. to Frenchman st., and the Comptroller will be asked to advertise for bids for the paving of the street when the Council shall have approved the plans.

Baltimore, Md.—The Chamber of Commerce Directors have recommended that the proposed widening of Saratoga st., between Holliday and Gay sts., be done because of the large traffic originating at Calvert Station and with merchants in nearby territory.

Gloucester, Mass.—Council has passed an order authorizing Alderman Merchant, Chairman of the Committee on Highways, to lay edgestone in needed places at his discretion, to an amount not exceeding \$1,000.

Haverhill, Mass.—On motion of Alderman Killam, 11 \$1,000 bonds for a 10-year period have been ordered issued, the money to be expended as follows: Paving Main st., from Summer st. to the North Church, the cost not to exceed \$6,200; relaying of edgestones and crossing on the same thoroughfare, cost not to exceed \$750; the resurfacing of Summer st. for \$2,500, and the macadamizing of Arlington st., from Highland to Mill sts., to cost \$2,300.

Lawrence, Mass.—Council has ordered that the Superintendent of Streets be authorized to pave Hampshire st., from Oak st. to Park st., with granite blocks laid on sand cushion, according to specifications to be prepared by Arthur D. Marble, City Engineer; expense not to exceed \$20,000 to be charged to the incidental fund.

Lawrence, Mass.—A committee of three will be appointed to consider the need of a concrete mixer for the Street Department; cost about \$2,200.

Lynn, Mass.—On recommendation of the Committee on Streets, an order has been adopted by Council for the paving of Wyoma square, Glenmere square, Village square and Mason st., and Chestnut st., from Union to Olive sts., with Hassam paving.

Detroit, Mich.—Council has directed the Department of Public Works to advertise for proposals for paving Kirby ave. from Hastings to Russell st., with cedar blocks, on concrete foundation, with Medina, Berea or other approved curbing; cost, \$7,400; also for paving an alley, 20 ft. wide, with vitrified brick, on concrete, \$4,000.—J. J. Haarer, Commissioner.

Port Huron, Mich.—The Superintendent of the Board of Public Works and the City Engineer will prepare plans, specifications and estimates for repairing macadam pavements in sundry streets.

Portland, Mich.—Council is planning to pave James, Bridge and Kent sts. this season.

Red Wing, Minn.—The Board of Public Works has recommended the paving of Pine st.

Waseca, Minn.—Plans have been prepared for 4,100 ft. of brick paving on Lake ave.; cost \$18,000.

Independence, Mo.—Bids will be received for 5,000 yds. of grading.—H. H. Pendleton, City Engineer; J. S. Craig, City Clerk.

St. Charles, Mo.—City has decided to construct 14,370 sq. yds. brick paving, 6,264 lin. ft. granitoid curb and 7,000 yds. of grading.—Carr Edwards, City Engineer.

Grand Island, Neb.—Council is canvassing the vote of the \$17,000 paving bonds which has been carried; plans and estimates have already been made by the City Engineer, and the advertisement for the bids will be given at once that the paving of the 34

blocks will be done before the close of this season.

Omaha, Neb.—Ordinances have been passed by Council ordering the repaving of the following streets: 11th, 12th and 15th sts., between Jackson and Dodge sts.; 13th st., between Howard and Harney sts., and between Douglas and Davenport sts.; 14th st., between Howard and Davenport sts.; Harney st., between 9th and 15th sts., and Howard st., between 9th and 15th sts. Ordinances were also passed ordering the paving of the following streets not now paved: 18th st., between Webster and Cuming sts.; Webster st., between 38th and 40th sts., and 27th st., between Chicago st. and Central boulevard. Ordinances have been introduced ordering the repaving of these streets: Capitol ave., between 14th and 16th sts.; Mason st., between 11th and 13th sts., and California st., between 16th and 20th sts. On the recommendation of the City Engineer, the City Clerk has been instructed to readvertise for bids for grading several streets upon which no bids have been received, though bids have been advertised for twice; these streets include 42d st., between Emil and Bancroft sts.; Pratt st., between Florence boulevard and 24th st.; Mason st., between 34th st. and 35th ave., and 35th ave., between Mason and Pacific sts.

Concord, N. H.—The Committee on Roads and Bridges has asked for a \$2,650 appropriation for the purchase of a road roller.

Jersey City, N. J.—Councilman Mohn, of West Hoboken, has suggested that the dust nuisance on Palisade ave. can be abated and an excellent finish be given the roadway by using liquid asphalt; he said that he had, on a recent trip in the Eastern States, gone over roads treated with this material, and he claimed that they are in the finest of condition; avenue throughout its entire length could be treated with the material at a cost of about \$300.

Morristown, N. J.—The appointment of a committee of five property owners and two tenants to push the project of paving Washington st. was the result of the meeting of the Street Committee of the Board of Aldermen and Street Commissioner Howard Cole with the property owners and citizens of Morristown; \$11,000 is available.

Perth Amboy, N. J.—The Board of Aldermen has adopted ordinances for paving the following thoroughfares, with the materials named: Fayette st., from Madison ave. to the Central railroad, with brick; State st., from Gordon st. to the Raritan River, asphalt block; State st., from Smith st. to Market st., asphalt block; Lewis st., from Water st. to Madison ave., sheet asphalt; Hobart st., from Smith st. to Market st., sheet asphalt; King st., from Smith st. to Market st., sheet asphalt.

Trenton, N. J.—Council has decided to pave 2d st., from Broad to Lator sts., with sheet asphaltum, on a 4-in. concrete base.—H. B. Salter, City Clerk.

Trenton, N. J.—The Road Committee of the Board of Freeholders has decided to improve the Asylum road by the use of amesite.

Albany, N. Y.—Albany County has awarded \$68,000 4 per cent highway improvement bonds to N. W. Harris & Co., at \$101.318; Kountze Bros. bid \$100.17.

Brooklyn, N. Y.—The Board of Estimate has decided to improve the following streets: Curbing, flagging, where necessary, and paving with asphalt East 29th st. between Ave. D and Newkirk ave.; estimated cost, \$3,000; paving with asphalt block 54th st. between 6th ave. and 7th ave., \$6,900; paving with asphalt Ave. D between East 28th st. and East 29th st., \$2,000; paving with asphalt Hinckley place between Coney Island ave. and East 11th st., \$1,800; paving with asphalt East 32d st. between Canarsie lane and Clarendon road, \$2,400; paving with asphalt East 31st st. between Newkirk ave. and Clarendon road, \$7,700; paving with asphalt East 4th st. between Church ave. and Ave. C, \$7,200; paving with asphalt 14th ave. between 75th st. and 79th st., \$9,800; paving with asphalt East 28th st. between Clarendon road and Newkirk ave., \$7,600.

Dolgeville, N. Y.—Citizens have voted to issue \$20,000 bonds for paving Main st.; work will be done in conjunction with a State road which is to be laid through the village next year.

Elmira, N. Y.—The Walnut st. paving from Church to Water will not be built at this time; it will be ordered later in the summer.

Manhasset, L. I., N. Y.—Town Board of North Hempstead has awarded its whole issue of highway improvement bonds, amounting to \$61,000, to Rudolph Cleybolt & Co., of Chicago.

Matteawan, N. Y.—Citizens have decided to pave Main st. and Fountain square their entire length.

Newburgh, N. Y.—The Street Committee will recommend the improvement of Grand st., between Broadway and 3d.

New York, N. Y.—The Board of Aldermen

has voted \$750,000 for the elimination of Brooklyn's grade crossings; \$235,000 of this is for the Long Island Railroad and the rest for the Manhattan Beach line.

Niagara Falls, N. Y.—Council has approved the recommendation of the Board of Public Works to pave those sections of 7th st., between Falls and Niagara sts., and Niagara st. and Walnut ave.

Schenectady, N. Y.—The Board of Contract and Supply will advertise for a new set of bids for grading, curbing and paving of Campbell ave., between Broadway and Fairview ave.; bids submitted by the Union Paving Co., Schenectady Contracting Co. and Thomas R. Crane were rejected because of the price asked for excavation in connection with the work.

Syracuse, N. Y.—Council has decided to pave Danforth st.

Utica, N. Y.—City Engineer O'Brien submitted a list of 61 different sections of sidewalks and action on them will be taken by the Board of Contract and Supply. Plans and specifications for three such crosswalks, one at the corner of Mary and Milgate sts., one at the corner of City and Thorn sts., and one at the corner of Caroline st. and Mathews ave., have been submitted, and the Commissioner of Public Works directed to proceed with their construction.

Goldsboro, N. C.—Citizens have voted \$150,000 bonds for street and sidewalk improvements.

Akron, O.—Petitions were filed with the County Commissioners asking for the improvement of the East Market st. road from the end of the pavement to a point a mile and a half distant.

Akron, O.—The Board of Public Service will let contract at once for the paving of Maple st.; material not yet decided on.

Akron, O.—Petitions for the improvement of the road to the Cuyahoga County line are being circulated in Bath and Richfield townships.

Ashtabula, O.—Ashtabula County has awarded \$10,000 road bonds to the National Bank at \$345 premium.

Columbus, O.—Plans are about completed by the City Board of Public Service, the City Engineer and Superintendent W. H. Horn for the resurfacing of West 11th ave. from High st. to Neil ave., a total of 7,200 sq. yds.; the city will advertise for bids to supply Bermudez asphalt to do the work.

Cuyahoga Falls, O.—City is considering the paving of Broad st.

Dayton, O.—Council has passed a \$20,000 bond issue for general street improvements; also authorized the improvement of Wyoming, Cornell, Kirkham, Rubicon, Helena and Wayne Aves.

East Youngstown, O.—County Engineer Montgomery will fix a grade for a sidewalk in Broad st., and also a grade for other streets.

Hamilton, O.—City Solicitor John B. Connaughton will attend a meeting of the State Association of City Auditors, Columbus, and will present the plans and specifications submitted by City Civil Engineer L. A. Dillon to Council to State Railway Commissioner John Sullivan for the G st. crossing over the C. H. & I. railroad; cost is estimated at \$50,000.

Ironton, O.—The Board of Public Service has presented an estimate of the expense of paving Neal ave., from 3d to 5th sts.; cost will be \$7,560.

Lima, O.—City has decided to reject all bids for the paving of West Market st.; new ones will be asked.

Ravenna, O.—Council has passed an ordinance to issue \$15,600 bonds for grading, draining, curbing and paving W. Main st. E. W. Martin, Clerk.

Sandusky, O.—County has awarded \$15,000 5 per cent road improvement bonds to the Fremont Savings Bank at \$381 premium.

Tecumseh, Okla.—Petitions have been filed with the County Commissioners of Pottawatomie County asking for the creation of a good roads district extending from this place west to the Cleveland county line; it is urged that an election be called for voting bonds to raise the necessary money to complete the work; road sought to be improved is 11 miles in length.

Altoona, Pa.—The Board of Public Works has decided to advertise for bids for the paving of 5th ave. between 12th st. and the western city limits, the work to be done under the same plans and specifications by which the former contract was awarded.

Butler, Pa.—Council has passed an ordinance providing for the grading, paving and curbing of Beckert ave. from West Wayne st. to Virginia ave.

Ebensburg, Pa.—Judge Francis J. O'Connor has taken action upon the resolution petitioning for the approval of the Court and the Grand Jury to the projected campaign of systematic and widespread improvements to the highways of Cambria County by ordering that the Grand Jury be drawn within the next two weeks and summoned to convene in special session on the first Monday in August; it is

the plan of the Commissioners to construct 106 miles of good roads under the provisions of the Act of 1905, but it is not probable the work will be started this year for the reason that many important details are yet to be worked out.

Erie, Pa.—Millcreek Township citizens, who want another route between the city and Waldameer and Trinity Cemetery, are planning to have West 12th st. extended westwardly to the cemetery.

Greensburg, Pa.—Macadam with a 4-in. surface of asphalt will be the composition instead of brick for the public road between Greensburg and Jeannette leading past the County Club.

Harrisburg, Pa.—King split-log drags, which have been found of inestimable value on the dirt roads of the country all over the United States, will shortly be put in use on the dirt streets of the city under the supervision of the City Highway Department.

Danville, Pa.—A petition, bearing 10 signatures, has been presented to Council asking that East Market st., between Pine st. and Cook's court be paved with vitrified brick, and be properly curbed with stone.

Johnstown, Pa.—Council is considering an ordinance providing for the paving of portions of Pine, Hazel and Franklin sts. and the curbing and laying of sidewalks on portions of Pine and Hazel sts. in the Borough of Franklin.

Johnstown, Pa.—Ordinances providing for the paving of portions of the following thoroughfares have been introduced in Council and referred to the Highways Committee: Dibert st., in the Fifth and Sixth wards, from Franklin to Somerset sts.; South st., in the Sixth Ward, from Franklin to Somerset; Somerset st., Fifth Ward; Haynes st., Fifth Ward, and H. st., Nineteenth Ward.

Meadville, Pa.—Council has passed an ordinance for the grading and paving of Arch, Poplar and Alden sts.

North Braddock, Pa.—Bids will be received June 30, 3 p. m., for the grading and paving of Roy and Bowers sts., Coalmont and Sherman ayes, and Rose alley.—C. A. Stewart, City Engineer.

Oxford, Pa.—State Highway Commissioner Hunter will visit southern Chester County with a view of improving some of the roads.

Pittsburg, Pa.—Mayor Magee has been looking over ground proposed as a site for an asphalt plant; product will be used on the streets of the Southside.

Reading, Pa.—The Committee on Nuisances has recommended the improvement of about 25 alleys.

Sayre, Pa.—Borough is considering construction of about 6,000 sq. yd. of brick pavement and 3,500 lin. ft. of curb and gutter.

South Bethlehem, Pa.—The Street Department proposes to expend \$7,774 for the improvement of streets.

Williamsport, Pa.—Mayor Wolfe has recommended that the asphalt streets be resurfaced in part, and the balance of the streets be repaved, using the fund already appropriated for that purpose.

McMinnville, Tenn.—Bids will be received by the Turnpike Commissioners of Warren County for constructing about 35 miles of macadam and gravel roads.—J. C. Biles, Secretary.

Memphis, Tenn.—Council has given final reading to ordinances for the improvement of 38 streets, about 100,000 ft.; also first reading to ordinances for the improvement of 11 streets, about 2,850 ft.

Newbern, Tenn.—City has decided to construct 3½ miles of gravel streets and concrete walks.

Cleburne, Tex.—Bosque County will vote on \$90,000 bonds for good roads.

El Campo, Tex.—The Attorney-General has approved \$10,000 bond issue for street improvements.

Fort Worth, Tex.—Tarrant County will vote July 17 on \$1,000,000 bonds for road construction; distance 300 miles.—J. J. Carter, Arlington, President Good Roads Association.

Piano, Tex.—City is considering the paving of the main street.

Taylor, Tex.—City will expend \$20,000 in paving portion of Main st.; engineer not yet selected.—O. E. Roberts, Mayor.

Waco, Tex.—Citizens will vote July 14 on \$200,000 bonds; \$75,000 will be for streets and alleys and \$25,000 for public works.

Salt Lake City, Utah.—At a meeting between the County Commissioners of Tooele County and the County Road Supervisor, together with members of the Automobile Club and representatives of the International Smelting and Refining Co., held at Garfield, the Commissioners agreed to expend \$5,000 for their good roads; \$3,000 of it will be expended from the Salt Lake County line around the point of the mountain up to the towns of Tooele and Grantsville.

Norfolk, Va.—The Public Improvement and Finance Committee has approved \$67,-

000 bond issue for paving with asphalt or other material Baldwin place, Shirley ave., Spottswood ave. and 21st st.—W. T. Brooke, City Engineer.

Staunton, Va.—The Board of Supervisors of Augusta County has adopted a resolution to macadamize about 30 miles of public roads.

Newport, Vt.—The Vermont Public Service Commission has announced that most careful consideration satisfies it that public safety and convenience require that the grade crossing at White River Junction depot be abolished, and a subway constructed, at a cost of \$51,317; a change in tracks at the depot is also ordered.

Aberdeen, Wash.—Council has decided to improve Hume st.; cost \$16,000; a petition has been received for the paving of G st.

Seattle, Wash.—The State Highway Board has selected the east side route for the Kent-Orillia State aid macadam road; highway will cost \$50,000.

Spokane, Wash.—Council has adopted plans for asphalt paving Broadway, Monroe to Chestnut; \$8,000 estimated; Perry and Newark, Ivory to 18th, with oileroid.

Green Bay, Wis.—Council has instructed City Engineer W. W. Reed to prepare plans and specifications for paving Monroe st. and such other streets as deemed advisable.

Milwaukee, Wis.—The Board of Public Works has recommended the paving of portions of a number of streets.—Chas. J. Poetsch, City Engineer.

Racine, Wis.—Council has adopted a resolution to grade N. Michigan st.; also to grade and pave 10th st. from Main to Wisconsin st.—P. H. Connolly, City Engineer.

Newmarket, Ont., Can.—Ratepayers have voted to issue \$20,000 debentures for laying granolithic walks and road improvements.

Orillia, Ont., Can.—Citizens have approved the by-law providing for an appropriation of \$15,000 for sidewalks.

BIDS RECEIVED AND CONTRACTS AWARDED

Birmingham, Ala.—City has received bids and will soon award contract for paving 23d, 24th and 26th sts. with either brick, asphalt or granitoid.—Maury Nicholson, City Engineer.

San Bernardino, Cal.—Johnson Shea Co. has been awarded contract for improving 5th st. at the price specified in his proposal on file for said work, to wit: For oiled macadam, per sq. ft., 29c.; for concrete gutters, 3 ft. wide, per lin. ft., 30c.; for culverts of concrete reinforced with steel bars, Class No. 2, per lin. ft., \$1.75; Class No. 3, per lin. ft., \$1.50; Class No. 14, per lin. ft., \$1.50; Class No. 24, per lin. ft., \$1.50.—Harry Allison, City Clerk.

San Jose, Cal.—Council has awarded contract to John McReynolds for improving San Antonio st., from 1st to 2d st. to the official grade or crown, to consist of the construction therein of a layer of cement concrete six inches in thickness covered with a bituminous rock covering or wearing surface, two inches in thickness and constructing gutters two feet in width on each side of street, paved with concrete six inches in thickness; bituminous pavement, including 6-inch concrete foundation and grading, to cost 22½c. per sq. ft.; gutter, 19c. per sq. ft.—Roy E. Walter, City Clerk.

Hartford, Conn.—The following bids were received by the State Highway Commissioner for work in the town of Scotland, but the contract was not awarded: 2,950 lin. ft. of grading, including one 15-in. tile culvert, and a concrete arch bridge and railing; Pierson Engineering & Construction Co., Bristol, \$9,795 for grading, and 30c. per lin. ft. for railing; Goodman & Trumbull, Litchfield, \$10,130, and 30c.; Ahern Brothers, Norwich, \$12,254 and 65c.; A. Brazos & Sons, Middletown, \$13,872 and 35c.; O. T. Benedict, Pittsfield, Mass., \$14,000 and 40c.

Hartford, Conn.—Contracts for the construction of State road work, bids for which were received on June 18, have been awarded by the State Highway Commissioner as follows: Town of Glastonbury, 5,200 lin. ft. macadam-telford and cobble gutters, to A. D. Ambrosia & Co., Hartford, at \$1.72 for macadam, \$2.83 for telford, and 57c. per sq. yd. for gutters. Other bidders were: Donahue Bros., Middletown, \$2.19 and \$3.17; A. Brazos & Sons, Middletown, \$1.98, \$2.50 and 75c.; A. E. Douglass, Glastonbury, \$1.76, \$2.70 and 65c.; R. B. Davis, Hartford, \$1.78, \$2.70 and 50c.; O. T. Benedict, Pittsfield, Mass., \$1.95, \$2.95 and 65c.; Pierson Engineering & Construction Co., Bristol, \$2.20, \$2.95 and 60c. Town of Essex, 5,722 lin. ft. macadam-telford, (a) macadam all trap rock, (b) macadam native stone, (c) telford with native stone, (d) telford with trap rock, (e) cobble gutters, to Pierson Engineering & Construction Co., Bristol, (a) \$2.24, (b) \$1.60, (c) \$2.56, (d) \$1.95, (e) 50c. Other bidders were: Lane Construction Corporation, Meriden, (a) \$2.74, (b) \$2.26, (c) \$3.04, (d) \$2.76, (e) 75c.; B. D. Pierce,

Jr., Co., Bridgeport, (a) \$2.41, (b) \$2.28, (c) \$3, (d) \$2.88, (e) 65c.; B. N. Beard Co., Shelton, (a) \$2.74, (b) \$3.25, (c) \$2.74, (d) \$3.25, (e) 50c.; A. Brazos & Sons, Middletown, (b) \$4.98, (d) \$5.22, (e) 75c.; Donahue Bros., Middletown, (a) \$3.24, (b) \$3.04, (c) \$4.14, (d) \$3.94. Town of Thompson, 12,350 lin. ft. gravel-telford, including one 15-in. and three 18-in. tile culverts, (a) gravel 16 ft. wide, (b) gravel 14 ft. wide, (c) gravel-telford, (d) cobble gutters, to A. Vito, Thompson, (a) 94c., (b) 89c., (c) \$1.67, (d) 65c. Other bidders were: Ahern Bros., Norwich, (a) \$1.20, (b) \$1.12, (c) \$1.45, (d) 75c.; A. Brazos & Sons, Middletown, (a) \$2.10, (b) \$1.90, (c) \$2.40, (d) 75c.; Pierson Engineering & Construction Co., Bristol, (a) \$1.36, (b) \$1.33, (c) \$1.75, (d) 50c. Town of Somers, 1,807 lin. ft. macadam-telford, including three 10-in. tile culverts, to Amos Bridges' Sons, Hazardville, at \$1.67 for macadam, and \$1.83 for telford. R. B. Davis, Hartford, was the only other bidder, at \$1.76 for macadam.

Washington, D. C.—Bids were opened in the District building by E. E. Helm, Acting Chief Clerk of the Engineering Department, for grading and otherwise improving twenty-four streets in the suburban sections of the District. The low bidder was E. G. Gummell. He offered to do the grading for 39c. cu. yd., to put in 6x20-in. curb for 27c. lin. ft., to put in 8x8-in. curb, 37c. lin. ft., lay cobble gutter, 37c. sq. yd., and lay vitrified brick gutter, on gravel base, 59c. sq. yd. The work to be done includes grading, setting curb, paving gutters, on 24 or more streets.

Columbus, Ind.—Contract for 2½ miles of gravel roads in Wayne Township, bids opened June 7, has been awarded to Edward Piercefield, of Columbus, for \$5,900.—J. M. Davis, County Auditor.

Decatur, Ind.—The lowest bid, opened June 7, by the Board of Public Works, for macadamizing the Caleb Andrews and Joseph Helman roads was submitted by E. H. Faust, at \$10.750.

Elkhart, Ind.—The Andrews Asphalt Co., of Hamilton, O., has secured the contract for paving with asphalt Princeton st. for \$17,787.

Evansville, Ind.—Bids for the improvement of Main st., opened June 22, by the Board of Works, included a bid for asphalt of \$1.89 a sq. yd.; this is 8c. lower than the bid of the Western Asphalt Co., made a short time ago and which, when the Board decided it to be exorbitant, was thrown out, with all other bids. The bid of \$1.89 is made by the Frankfort Construction Co., of Frankfort. The Andrews Asphalt Co., of Ohio, made a bid of \$1.95 on asphalt; this is 2c. lower than the bid of the Western Asphalt Co., which made no bid on the last call. The members of the Board unanimously decided in favor of asphalt; Member Wunderlich voted for brick last time, saying that he believed it was the choice of the majority of the property owners, but at the recent meeting at the letting he cast his vote for asphalt; ten days will elapse before the contract is awarded; if asphalt is to be the material, the construction will be given to the Frankfort Construction Co. Bids on Porter brick and Mack block were received from Louis Reichert; the former was \$1.56 with Pioneer filling, and \$1.54 with Sarco filling. The Mack block was \$1.65 with Pioneer filling, and \$1.63 with Sarco filling. The Frankfort Co. made a bid of \$1.80 on bitulithic.

Evansville, Ind.—Bids for three streets which, it is generally believed, the property owners desire to be paved with asphalt, were opened and it was found that no effort had been made by the Western Construction Co. to get the contract. The two bidding asphalt companies, which offer to improve Oakley st., Adams ave. and Jefferson ave. are the Andrews Asphalt & Paving Co. of Hamilton, O., whose bid was \$1.99 per sq. yd. and the Frankfort Construction Co., which bid \$1.97. The latter company's bid is the same as that of the Western Construction Co. on Main st. and the former 2c. higher. Bids from brick companies, differing little from the bids received on Main st. were received.

Muncie, Ind.—The contract for paving with brick on South Walnut st. has been awarded to George W. McCray, of Indianapolis, for \$92,000. John Gubbins has secured the contract for paving with brick on Walling Hill, from Ohio ave. to C. C. & L. R. R., for \$14,200.

New Albany, Ind.—The Board of Public Works has decided to improve Market sq., which is that portion of Market between Pearl and State sts., according to the original plans and specifications which provide for a granitoid pavement on either side the street with 60-ft. plaza in the center and a 30-ft. vit. brick roadway on either side; plans for the vit. brick improvement of Greenaway pl. have also been approved by the Board. Bids for both improvements that were submitted to the Board have been taken under advisement. The bidders are G. W. Palmer, of Logansport; Charles Ap-

pleby, of New Albany, and the Jefferson County Construction Co., of New Albany.

Paoli, Ind.—Elwood Johnson, Orleans, has been awarded contract, at \$4,530, for constructing a gravel road in Orange County.

Vernon, Ind.—Miller Bros., North Vernon, have been awarded contract, at \$4,100, and J. M. Childers, Grammer, at \$5,947, for the construction of pike roads in Jennings County.

Des Moines, Ia.—The Bryant Ford-McLaughlin Asphalt Paving Co. has submitted the lowest bid, at \$2 per sq. yd. for paving with asphalt about 6,145 sq. yds. of Prospect boulevard, Lincoln ave. and 8th st.

Sioux City, Ia.—The Iowa Cement Brick Co. secured all the contracts for combined gutter and curb on the following streets: Wall st. from 5th to 7th; 11th from Jennings to Court; 13th from Douglas to Court; Virginia from 6th to 14th; 12th from Jones to Wall; 6th from Jennings to Wall; the company underbid Lewis & Leeder, Jerry Weibel and P. C. Hansen.

Salina, Kan.—John Ritchie has secured the contract for paving with brick East Iron ave., Walnut and 8th sts., at \$1.71 per sq. yd., and Lyon Bros., the contract for curbing and guttering at 72c. per lin. ft.

Topeka, Kan.—Walter W. Gilmore was awarded the contract for the new sidewalk paving this year. He will have plenty of work to do because there has never been such an inflow of sidewalk petitions as has been sent to the City Council this year. The bid made by Mr. Gilmore was 67-10c. per sq. ft. for all brick sidewalks 6 ft. wide and over and 72-10c. for all brick walks less than 6 ft. in width, 88-10c. per sq. ft. for cement walks was also made and accepted. This bid was the best proposition to the city and Mr. Gilmore was given the contract.

Louisville, Ky.—The Barber Asphalt Co. was the successful bidder for street construction work valued at \$20,000, bids on which were opened by the Board of Public Works; the bid made by the company was \$1.86. Another small strip of street construction work will probably be awarded to the Marion Construction Co. at \$1.75 a sq. yd. The successful bidder for the improvement with vitrified brick paving of L st. from the east line of 6th st. to 7th st. and of Swan st. from St. Catherine st. to Oak st. was George W. Gosnell, at a cost to the city of \$11,500. His closest competitor was L. R. Pigg.

St. Bernard, La.—The Police Jury has awarded contract, at \$48,000, to Nat Scott, city, for construction of eight miles of shell road.

Bel Air, Md.—The Harford County Commissioners have awarded the contract for building the Black Horse-Shawsville permanent road to Deckman & Forsythe.

Cumberland, Md.—The contract for building five miles State roads in this county was awarded to Hootman Bros., of Washington, Pa., at their bid of \$38,658.93, the lowest yet received for building a stone road. The road runs over the old Cumberland road, a section of the National pike, from Cumberland east to the Six-mile House. Two other sections are to be constructed in Alleghany county this summer—one mile between Frostburg and Eckhart and one mile from Frostburg west toward the Garrett county line. The latter is in bad condition and it is the intention to rebuild the worst sections first.

Boston, Mass.—Superintendent of Streets Emerson has awarded a contract to the Barber Asphalt Co. for asphaltizing Beacon st., between Dartmouth and Fairfield sts., for \$12,768; the company submitted the lowest of three bids filed at the Street Department office; Jones & Meehan figured \$13,562 for the work, while the Warren Bros. Co. submitted a bid amounting to \$14,129.70.

Lawrence, Mass.—Jacob Wagenbach was awarded contract by the Board of Aldermen to grade Floral st. and erect a retaining wall, and will start on the job at once.

Albert Lea, Minn.—Bids were opened, June 23, for 28,038.47 sq. yds. creosoted wood block pavement and Fielding & Shepley were awarded contract; bids received were as follows: General Construction Co., Minneapolis, \$62,806.17; J. W. Turner Improvement Co., Des Moines, Ia., \$63,462.81; Fielding & Shepley, St. Paul, \$61,955.89; Forestal & Feyen, St. Paul, \$73,378.66; Mulgrew & Boyce, Dubuque, Ia., \$71,435.90.—Wm. Barneck, City Engineer.

Duluth, Minn.—Bids for the pavement of 6th st. and Vista st. from Wallace to Woodland aves. were opened by the Board of Public Works and the award of the contract will rest largely with the property owners, and will depend upon the kind of material used. Bids were submitted on seven kinds of paving, and separate figures were put in for the cement walk and combined curb and gutter. G. R. King was low bidder on tar macadam, with a total of \$13,099.50. P. McDonnell, the only other bidder on this material, put in a figure of

\$13,118.60. D. H. Clough was low on the concrete curb and gutter and the cement walk. His price is \$8,135. George R. King was the only bidder on Telford macadam, and his figure on that material was \$10,635. He also submitted the only set of figures on tar-filled macadam, which he agrees to put in for \$11,622.50. Mr. King's bid on creosoted blocks with a 5-in. concrete base is \$23,094.50, while Mr. McDonnell bid \$23,705.10 for one grade of block and \$21,421 for another grade. Mr. McDonnell bid \$16,262 on asphalt, which is more than \$4,000 lower than the bid of Mr. King, his only competitor. The Rudolph Blome Co. of Chicago bid \$16,240.50 for a granitoid pavement.

Columbia, Mo.—J. A. Stewart, Exchange National Bank Building, Columbia, has secured contract for brick paving, bids opened June 15, for about \$28,006.—D. B. Duncan, City Engineer.

Kansas City, Mo.—Three bids were submitted to the Board of Public Works for the construction and equipment of an asphalt paving repair plant with a daily capacity of 1,000 sq. yds. of 3-in. material every day; the lowest bid was that of the Hetherington & Berner Engineering Co. of Indianapolis, Ind., for \$29,875; other bids received were from the Iroquois Iron Works of Buffalo, N. Y., for \$36,800, the Warren Asphalt Paving Co. of Cambridge, Mass., for \$32,995, and the F. D. Cummer Sons' Co. for a portable plant to cost \$14,900; the bids were referred to James L. Darnell, City Engineer, for tabulation and recommendation; the plant is to be located on the workhouse grounds.

St. Joseph, Mo.—The Board of Public Works has awarded the contract, bids opened May 29, for paving a portion of 25th st. with asphalt, to C. W. Dillingham, at \$2.03 per sq. yd. Rackliffe & Gibson have secured the contract to pave with Hassam block a portion of 19th st., at \$1.35 per sq. yd.

Butte, Mont.—Bids for the construction of sidewalks were submitted by A. Saner, J. R. Silver, Jr., and P. H. Regen, and were referred to the Street and Alley Committee.

Elizabeth, N. J.—The Roads Committee of the Union County Board of Freeholders has declared a preference for amesite as a paving material, and awarded contracts for that kind of pavement in preference to asphalt; the members of the committee went on a trip of inspection over roads of this material in Camden and were very favorably impressed with it. The E. C. Humphrey Co., of Hackensack, was awarded the contract for the paving of Walnut ave., Cranford, for \$15,483, in preference to a lower bid for asphaltum by O'Rourke Bros., of Yonkers. Bids for the paving of Terrill road, in this city, will be re-advertised for in order that the committee may get figures on amesite. The committee decided to award the contract for the paving of Edgar road, to cost \$41,194.44, to the Humphrey concern, with instructions to pave the road up to 1,300 ft. of the Baltimore & Ohio Railroad only, pending the close of the negotiations with the railroad to provide for the depression of the street where it crosses the railroad at grade.

Morristown, N. J.—The Road Committee of Board of Freeholders has opened bids for the repair of six different sections of roads in the county. The opening was on the re-advertisement for bids and the six sections this time do not include Main st., Madison, and Main st., Chatham, which boroughs asked the Board to hold off as they were contemplating the installation of a sewer. Mt. Kemble ave. and Mine Hill are included in place of the above. The bids were: Section 1, Allen st., Netcong—H. E. Salmon awarded contract; with one-year guarantee, \$3,779.03; without guarantee, \$3,397.66; contractor supplying cracked stone; with one-year guarantee, \$3,154.97, without, \$2,600.05, county supplying stone. Sec. 2, South st.—Commonwealth Construction Co., with 2-year guarantee, \$4,832.20; without, \$4,636.30, contractor supplying stone; with 2-year guarantee, \$3,787.40, without, \$3,591.50. Sands & Co., with 3-year guarantee, \$5,875.20, without, \$4,700.16, contractor supplying stone; with 3-year guarantee, \$3,384.16, without, \$2,759.12; M. E. Mulhall, with 1-year guarantee, \$5,156.96, without, \$4,896, contractor supplying stone; with 1-year guarantee, \$4,047.36, without, \$3,580.40, county supplying stone. Fred S. Smith, with guarantee, \$4,439.24, contractor supplying stone, without, \$2,937.73, county supplying stone. Headley process, without guarantee, \$4,700.37; Amesite process, \$4,896.24. Henry R. Edwards, without guarantee, \$5,614.08. Osborne & Marcellus Co., without, \$5,679; Amesite process, without, \$5,352; Headley process, contractor supplying stone; \$3,320, county supplying stone; \$4,896, contractor supplying stone; \$3,264, county supplying stone. J. B. Gougherty, without guarantee, contractor supplying stone, \$5,353.14, county supplying stone, \$3,459.95; Headley process, contractor supplying stone, \$5,614.27; county supplying

stone, \$3,721.09. Section 3, Madison ave., Morristown—Commonwealth Construction Co., with 2-year guarantee, contractor supplying stone, \$5,788.28; without, \$5,553.62; with 2-year guarantee, county supplying stone, \$4,536.76; without, \$4,302.10. Sands & Co., with 3-year guarantee, contractor supplying stone, \$7,039.80; without, \$5,631.84; with 3-year guarantee, county supplying stone, \$4,654.09; without, \$3,246.13; M. E. Mulhall, with 1-year guarantee, contractor supplying stone, \$6,414.04; without, \$5,856.50; county supplying stone, with, \$4,849.64; without, \$4,302.10; Fred S. Smith, without guarantee, contractor supplying stone, \$5,553.76; county supplying stone, \$3,754.66; Headley process, without, \$5,788.43; Amesite, without, \$6,023.09; Henry R. Edwards, Amesite, without, \$6,961.58; Osborne & Marcellus Co., Amesite, without, \$6,805; Headley process, contractor supplying stone, \$6,414; county supplying stone, \$4,458; without, contractor supplying stone, \$5,444; county supplying stone, \$3,989; J. B. Gougherty, without, contractor supplying stone, \$6,648.89; county supplying stone, \$4,380.44; Headley process, without, contractor supplying stone, \$6,961.78; county supplying stone, \$4,693.33. Section 4, Madison ave., Morris Township—Commonwealth Construction Co., with 2-year guarantee, contractor supplying stone, \$6,728.82; without, \$6,456.03; with county supplying stone, \$5,273.94; without, \$4,991.15. Sands & Co., with 3-year guarantee, contractor supplying stone, \$8,183.70; without, \$6,546.96; with county supplying stone, \$5,410.33; without, \$3,773.59. M. E. Mulhall, with 1-year guarantee, contractor supplying stone, \$7,456; without, \$6,819.75; with county supplying stone, \$5,637.66; without, \$5,001.15; Henry R. Edwards, without, \$8,093.77. Osborne & Marcellus Co., Amesite, without, \$7,910; Headley process, without, \$7,456, contractor supplying stone; \$5,183, county supplying stone; without, contractor supplying stone, \$6,910; county supplying stone, \$4,637; J. B. Gougherty, without, contractor supplying stone, \$7,547.46; county supplying stone, \$4,910.40; Headley process, without, contractor supplying stone, \$7,911.20; county supplying stone, \$5,274.13. Section 5, Mine Hill—Commonwealth Construction Co., with 2-year guarantee, contractor supplying stone, \$4,000; without, \$3,900; county supplying stone, with, \$3,500; without, \$3,450. H. E. Salmon, with 1-year guarantee, contractor supplying stone, \$4,500; without, \$3,980; county supplying stone, with, \$3,430; without, \$2,860. Section 6, Mt. Kemble ave.—Commonwealth Construction Co., with 2-year guarantee, contractor supplying stone, \$10,962.40; without, \$10,560; county supplying stone, with, \$8,729; without, \$8,307.20. Henry R. Edwards, Amesite, 2-year guarantee, \$13,376; without, \$13,094.40; Osborne & Marcellus Co., without, contractor supplying stone, \$11,686; county supplying stone, \$8,166; Amesite, without, \$13,376; Headley process, contractor supplying stone, without, \$12,530; county supplying stone, \$9,011. M. E. Mulhall, with 1-year guarantee, contractor supplying stone, \$13,657.60; without, \$12,531.20; county supplying stone, with, \$10,841.60; without, \$9,745.20; J. B. Gougherty, without, contractor supplying stone, \$13,376; county supplying stone, \$9,292; Headley process, \$13,920.20, contractor supplying stone; \$9,856, county supplying stone. Sands & Co., with 3-year guarantee, contractor supplying stone, \$12,672; without, \$10,137.60; county supplying stone, with, \$8,377.60; without, \$5,843.20. It therefore appears that Sands & Co. are the lowest bidders if the county furnishes the stone, and are low bidders on Mt. Kemble ave. if they furnish stone themselves.

Somerville, N. J.—The Somerset County Board of Freeholders awarded to Mobus and Burke the contract for macadamizing and widening Greenbrook road from Gavin's corner to the borough line, while A. I. Smalley and John Kitchen received the contract for the rest of the distance extending past Mt. St. Mary's College to the Terrill road line. The bonds were filed and papers signed and work will be started within a short time. Mobus and Burke's bid was a trifle over \$11,000.

South Orange, N. J.—Township Committee opened bids, June 22, for cement and flag walk construction; the lowest figure for cement work was 15c. per ft., and that for flagging 14½c. The three lowest bids for each class of work were retained, and the Chairman, William H. Kemp, was authorized to execute a contract upon the recommendation of Engineer Edmund R. Halsey.

Trenton, N. J.—Council has awarded the contract for repairing streets to the Filbert Paving and Construction Co. of Philadelphia for \$8,000.

Amsterdam, N. Y.—Contract for paving E. Main st., bids opened June 15, has been awarded to Michael F. Dollard, of Albany, for \$20,700.—F. E. Crane, City Engineer.

Brooklyn, N. Y.—The following were the lowest bids opened June 16, by Bird S.

Coler, Borough President, for regulating, grading, curbing and laying sidewalks on the following streets and avenues, together with all work incidental thereto: (a) Bay Ridge ave., from 5th ave. to 13th st.; (b) Mermaid ave., from West 19th st. to West 37th st.; (c) Park pl., from Utica ave. to Rochester ave.; Robertson & Gerhart Contracting Co., 186 Remsen st., (a) \$14,446, (b) \$11,442; (c) Conner Bros., \$14,115.

Geneva, N. Y.—The following bids were opened by the Board of Public Works, June 3, for macadam pavement on Lockland road: McComb, Taylor & French, \$13,869; Whitmore, Rauber & Vicinus, 279 South ave., Rochester, \$14,080.

New York, N. Y.—Bids were opened June 15 by Louis F. Haffen, Borough President, for paving with granite block on sand foundation Longwood ave. and Tiffany st., and the lowest bid was that of W. J. Fitzgerald, 547 W. 45th st. He bid for 23,680 sq. yd. new granite block, on sand foundation, laid with sand joints, and keeping the same in repair for one year, \$2.12; 1,500 lin. ft. new curb, 70c.; 6,315 lin. ft. of old curb, reset, 25c.; total, \$52,830. Totals of other bids: Dunbar Contracting Co., \$65,586; T. Crimmins Contracting Co., \$65,594; C. W. Collins, \$54,642; Atlanta Contracting Co., \$61,055; Rodgers & Haggerty, \$60,960; M. Baird Contracting Co., \$55,427; D. W. Moran, \$62,043; Asphalt Construction Co., \$63,005; Leahy Contracting and Construction Co., \$58,691; F. V. Smith Contracting Co., \$59,946.20.

The lowest bid opened same time and place for paving with asphalt block and with granite block on a concrete foundation E. 176th st., was by the Barber Asphalt Paving Co., 30 Church st., as follows: 6,050 sq. yd. completed asphalt block pavement and keeping the same in repair for five years, \$1.76; 1,372 cu. yd. concrete, including mortar bed, \$6; 1,000 lin. ft. new curb, reset, 93c.; 3,950 lin. ft. old curb, reset, 33c.; 2,385 sq. yd. new granite block pavement on concrete foundation, laid with paving cement joints and keeping same in repair for one year, \$3.07; total, \$28,435. The Hastings Pavement Co. bid for this work \$28,660.

The lowest bid opened June 15 for regulating, grading, setting curb, flagging sidewalks, laying crosswalks, building approaches and placing fences in E. 210th st. was submitted by J. C. Rodgers, Jr., Madison ave. and 138th st. for \$7,899, and the lowest bid for same work on Longfellow ave. was that of D. W. Moran, 562 Burnside ave., for \$9,976.

Bids were opened same time and place for regulating, grading, building approaches, erecting fences, laying vitrified pipe, etc., in Westchester ave., and the lowest bid, which secured contract, was that of the Watson Contracting Co., Aqueduct ave., near W. 193d st., as follows: 23,100 cu. yd. earth excavation, 60c.; 1,200 cu. yd. rock excavation, 1c.; 120,000 cu. yd. fill, 54c.; 330 cu. yd. dry rubble masonry in retaining walls, culverts and gutters, \$2; 50 cu. yd. rubble masonry in mortar, \$6; 550 lin. ft. vitrified stoneware pipe, 12-in., 55c.; 1,220 lin. ft. vitrified stoneware pipe, 20-in., 75c.; 1,650 lin. ft. of vitrified stoneware pipe, 24-in., \$1.90; 6,000 lin. ft. of guard rail in place, 17c.; 8 manholes complete, \$45; 14 receiving basins, complete, \$50; total, \$86,195. Totals of other bids received: T. Crimmins Contracting Co., \$89,765; W. F. Murray, \$94,714; Rodgers & Haggerty, \$93,656; C. W. Collins, \$87,260; W. A. Mallett, \$87,422; Atlanta Contracting Co., \$96,600; Leahy Contracting and Construction Co., \$175,245; F. V. Smith Contracting Co., \$108,800.

Rochester, N. Y.—Following are the bids opened June 23 by the Board of Contract and Supply:

Nelson st. brick pavement—Louis D'Argento, \$4,725; Hagaman, Miller & Hagaman, \$5,058; H. C. Schroeder, \$5,442; Brayer and Albraugh, \$5,473; William H. Sours, 2nd, \$5,486; H. N. Cowles, \$5,592; Clarence Aikenhead, \$6,361; Holder & Seitz, \$6,379.

Norwood st. brick pavement—Louis D'Argento, \$3,091; Julius Freiderich & Co., \$3,170; Hagaman, Miller & Hagaman, \$3,198; Holder & Seitz, \$3,259; Brayer & Albraugh, \$3,275; William H. Sours, 2nd, \$3,282; Clarence Aikenhead, \$3,299; H. C. Schroeder, \$3,369; Walter A. Margrander, \$3,344.

Lansdale st. brick pavement—H. C. Schroeder, \$5,313; Whitmore, Rauber & Vicinus, \$5,399; Holder & Seitz, \$5,546; Hagaman, Miller & Hagaman, \$5,602; Clarence Aikenhead, \$5,899; William H. Sours, 2nd, \$5,806; Louis D'Argento, \$5,806; Julius Freiderich & Co., \$5,879; Frank V. Brotsch Co., \$5,899.

Pembroke st. brick pavement—H. C. Schroeder, \$5,474; Whitmore, Rauber & Vicinus, \$5,524; Hagaman, Miller & Hagaman, \$6,654; William H. Sours, 2nd, \$5,504; Clarence Aikenhead, \$5,804; Julius Freiderich & Co., \$5,975; Louis D'Argento, \$5,998; Brayer & Albraugh, \$6,255; Holder

& Seitz, \$6,519; Frank V. Brotsch Co., \$6,678.

Rutgers st. asphalt pavement—Whitmore, Rauber & Vicinus, \$2,588; Rochester Vulcanite Pavement Co., \$2,610.

Sartee st. walks and grading—Julius Freiderich & Co. was low with a bid of \$612.

Fern st. cement walks—Clarence Aikenhead was low with a bid of \$316.

Exchange st. cement walks—Holder & Seitz were low with a bid of \$1,448.

Schenectady, N. Y.—The Board of Contract and Supply, June 23, awarded contracts for the improvement of several streets; the grading, curbing and paving of Haigh ave. was awarded to the Union Paving Co., the grading, curbing and paving of Van Voast st., to the Schenectady Contracting Co.; the grading, curbing and paving of 4th ave., to the Union Paving Co.; the grading, curbing and paving of Euclid ave. to the Schenectady Contracting Co.; the grading, curbing and paving with asphalt blocks of Linden st., to Harry A. Sylvester; the construction of sanitary sewers in Norwood ave. to John Allen; the painting of the Albany st. water tower to A. J. Bulduc.

Syracuse, N. Y.—Of the bids received for paving Temple st. from Salina st. to Onondaga creek the low bid for brick was \$12,025.80 by J. W. Bustin for Shawmut brick and the low bid for asphalt was \$13,022 by F. J. Baker. For paving Marcellus st. from South West st. to South Geddes st. the low bid for brick was \$41,809.85 by Samuel Bonn for Pennsylvania Clay Co.'s brick, and the low bid for asphalt was \$43,255.75 by F. J. Baker.

Utica, N. Y.—The Board of Contract and Supply has let the contract for the paving of Liberty st. west of Washington st. to the Barber Asphalt Paving Co. Several bids were opened for the paving of Shaw st. between Genesee st. and Sunset ave. from J. W. Johnston, John R. Baxter, Jr., and the Barber Asphalt Paving Co. The bids were for Clearfield brick, asphalt, Corning brick and Mack brick, some submitting figures on all of these and some on one or more. The bids ranged from \$4,528.60 to \$5,789.90.

For the paving of the intersection of Mandeville and Hart sts. and Sunset ave. there were several bids for both brick and asphalt; the City Engineer expressed the opinion that brick should be used. James W. Johnson, whose bid of \$2,225.10 was the lowest for brick, was given the contract; stone curbing was ordered in connection with the pavement.

Utica, N. Y.—The Barber Asphalt Paving Co. was the only bidder and was awarded the contract for paving the intersections of the following streets: Lincoln ave., Sunset ave. and Tracy st., \$1,108; Liberty and Washington, \$986.65. Stone curb was designated in each case.

Waterford, N. Y.—R. I. Gleason, Troy, has been awarded contract for paving 3d st. at \$27,316. Other bidders were: Eveline Bros., \$38,435 and M. Fitzgerald, \$28,411.

Bucyrus, O.—The Board of Service has awarded contract for the Poplar st. paving to Uncapher & Scott, who had the lowest bid; the Board has not decided yet what brick or curbing will be used.

Columbus, O.—The third advertisement of the Board of Public Service for bids for more than \$50,000 worth of asphalt paving work was less productive of results than on the two previous occasions, and when Secretary Hirsch opened the bids only three bidders sought these large contracts. The bidders were A. G. Pugh, D. E. Sullivan & Son and the Cleveland Trinidad Paving Co. None of the bids varied very much from those given on the second bidding. They were referred to the Engineering Department for tabulation, and the contract will be awarded just as soon as this report is made. The streets to be paved with asphalt under the present bidding are Oakwood, Ohio, Jefferson and Eastwood aves.

Columbus, O.—In the road improvement in Franklin County, referred to in the June 2 issue, 10 of the 16 miles will be treated with Tarvia X and the remainder with an asphalt binder, rather than with oil, as was stated in the local papers. Three other contracts, involving 5 miles of similar work, were let at the same time.

Delaware, O.—Lambert Bros. & Wirt have been awarded the contract by the Board of Public Service for the paving of S. Sandusky st., their bid being on concrete foundation as follows: Cement filler, \$25.764; grout, \$27,179, and pitch filler, \$26,896.

Lima, O.—Eleven bids for the proposed repaving of West Market st., from Elizabeth to Cole st., were received by the Board of Public Service and City Engineer Brice on June 17; there was one bid offering asphalt block at \$2.02 per sq. yd. submitted by the Asphalt Block Pavement Co., of Toledo, and the other bidders offered several brands of vitrified paving brick, sheet asphalt, creosote block, bitulithic and macadam paving. The figures on

the various parts of the work have not yet been compiled by Engineer Brice, but the bid of William E. McHugh, of Springfield, seems to be the low one on brick. The bidders who submitted proposals, in addition to those mentioned above, were the Lima Construction Co., the Andrews Asphalt Paving Co., of Hamilton; the S. S. Saxton Co., of Chicago; J. O. Shoup & Co., of Dayton; Mayer Bros. Construction Co., of Erie, Pa.; E. M. Ayers, of Zanesville; Russell Jennison Co., of Toledo; the Central Bitulithic Paving Co., of Manistee, Mich., and J. F. Hill, of Chicago.

Norwalk, O.—Bids were opened June 19 by the Board of Public Service for pavements for Milan st. and Foster ave., there being eight bids on the former and seven on the latter street; the following figures on the Milan st. job are based on Deckman or Medal brick with tar filler, laid on a foundation of six inches of crushed stone.

Ohio Paving Co., Toledo, \$12,635.50; George B. Herring & Son, Mansfield, \$11,550.10; W. S. Pace, Cleveland, \$12,029.90; W. E. McHugh, Springfield, \$13,319.30; A. J. Stough, Galion, \$13,319.30; R. W. Brown, Norwalk, \$13,277.50; James Quinn, Norwalk, \$11,177.70; C. F. Grinnell, Norwalk, \$14,118.79; Lee & Griggs, Clyde, \$13,069.80. Cement filler is cheap in price, varying from \$372 to \$669. The bid of Herring & Son was \$446.40 lower on cement filler and that of James Quinn \$669.60 lower. All bids on Metropolitan brick are higher.

The bids on the Foster ave. job, based on the same conditions as the Milan st. bids, were as follows: Ohio Paving Co., \$8,415.61; George B. Herring & Son, \$7,839.91; W. S. Pace, \$7,869.34; W. E. McHugh, \$9,121.59; A. J. Stough, \$8,419.37; R. W. Brown, \$8,658.56; James Quinn, \$7,309.03; Lee & Griggs, \$8,224.38.

Sandusky, O.—Contract for paving Decatur, Adams and Jackson sts., about 29,500 sq. yds., with sheet asphalt and concrete curb and gutter has been awarded to Andrews Asphalt Paving Co., of Hamilton, for \$59,000.

St. Clairsville, O.—Contracts for brick paving, bids opened June 11, have been awarded as follows: To Archer & Day, of Bellaire, 13,570 sq. yd., \$28,738, and to Peters & Palmer, of Marietta, 13,300 sq. yd., \$28,291.—O. B. Nary, Clerk Board of Public Service.

Youngstown, O.—Directors of Public Service, June 22, let a contract to James McCarron for the paving of Walnut st. from Boardman st. to Emily alley. His bid was \$1,728.54. Another contract was let to Mullin & Miller for the paving of Himrod ave. from Fruit st. to Truesdale ave. at \$980.60.

Alva, Okla.—City has contracted with Hanson Paving Co., St. Joseph, Mo., for paving six miles of streets.

Hazleton, Pa.—For the paving of North Laurel st.; six bids were received and John A. Leffler, city, was low, and he will in all probability be awarded the contract. The bids are as follows:

George H. Meinholtz, Reading; Auburn brick, \$2.20; Watertown, \$2.24; Mack, \$2.29; C. C. W., \$2.39. With asphalt filler an additional 55c. per sq. yd. is to be charged. Charles Kehoe & Co., Mack brick, \$2.18; Clearfield, \$2.20; Porter, \$2.21; 35c. per sq. yd. will be added in case asphalt filler is added.

Ludwig Kramer: Porter brick at \$2.28; C. C. W., \$2.26, and Mack brick at \$2.26.

John A. Leffler: Mack brick at \$2.11; C. C. W., \$2.09; Porter, \$2.15; Porter National, \$2.08; Watertown, \$2.01; Auburn, \$1.99, and U. S. Wood at \$3.15; with the use of the asphalt filler 22c. per sq. yd. will be added.

United Paving Co. of Atlantic City: Watertown, \$2.14; Clearfield, \$2.24, and Pennsylvania-Clay County, \$2.20.

The Standard Bitulithic Co.: Bitulithic paving, \$1.97 per sq. yd., and with a 6-in. concrete base, \$2.09; their bid was accompanied by a letter stating that the unfavorable weather conditions that prevailed at the time they paved certain streets in this city were responsible for the unsatisfactory work done by them. They also stated that they would ship their apparatus within the next two weeks to make repairs to the defective streets.

Media, Pa.—The J. F. Shanley Co., of Philadelphia, was awarded the contract to telford 3,000 ft. of roadway in Holy Cross Cemetery in Delaware County at their bid of \$10,336.75.

Mt. Carmel, Pa.—The Coryell Construction Co., of Williamsport, has secured contract for 10,047 sq. yd. Clearfield clay work vitrified brick paving at \$2.08 per sq. yd., and 704 sq. yd. White Haven curb at \$1.10 per lin. ft.; total, \$23,147. Totals of other bids received: D. M. Rosser, Kingston, Pa., \$23,504; Hayes & Clark, Danville, \$22,614; D. D. Dyke & Co., Mt. Carmel, \$21,964; John Leffler, Hazleton, \$23,609; Fendale, Kessler & Co., Mt. Carmel, \$23,171, and Geo. H. Meinholtz, Reading, Pa., and E. R. Keltz,

Mt. Carmel, Pa., \$23,701.—W. W. Robertson, Borough Engineer.

Philadelphia, Pa.—Director of Public Works Stearns has awarded the contract for paving 22 out of 30 streets to the Filbert Paving & Construction Co. The remaining 8 streets went to the Barber Asphalt Co. The McNichol concern bids ran from \$1.34 to \$1.44 a sq. yd. The Barber bids ranged from \$1.49 to \$1.55.

Chattanooga, Tenn.—Southern Paving & Construction Co., First National Bank Bldg., Chattanooga, is lowest bidder at \$25,500 for asphalt resurfacing and new asphalt paving on Georgia ave., 11th, A and Columbia sts.; total length of 2,475 ft.—H. F. Van Dusen, Chairman Board of Public Works.

Nashville, Tenn.—The Board of Public Works awarded contracts, June 17, for the construction of a quantity of granitoid curb and sidewalks, and the installation of a catch basin, stench trap, castings and a number of valve covers.

Reed & Co. were awarded the contracts for laying the sidewalks on Commerce st. from 7th ave. east to the alley, and on 6th ave., north, for 60 yds. in the vicinity of the intersection with Commerce st., their bid being \$1.45 per sq. yd.

The contract for the combined curb and sidewalk and plain sidewalk on 17th ave. from Elizabeth st. to Edgehill ave. was given to Curtis & Leseur on their bid of \$1.43 per sq. yd, the same firm being awarded the contract for curbing on this street at 40c. per lin. ft.

The contract for laying sidewalks on both sides of Tremont st. from 16th ave. to Cave was awarded to Gus Madden at \$1.45 per sq. yd.

W. A. Roach, who submitted the lowest bid on the work of installing the catch basin and stench trap at the corner of 16th and Edgehill aves., was given the contract on his bid of \$384.40. The Nashville Foundry Co. was given the contract for the castings at their bid of \$2.

Austin, Tex.—City has awarded contract at \$2.15 per sq. yd. for paving West 6th st. from Guadalupe to San Antonio st. to Heffron & Falligant, Austin.

El Paso, Tex.—El Paso County awarded contract at \$47,490 for construction of 17 1/2 miles of asphalt topped macadam road between Ysleta and Fabens; also contract for paving road from Ysleta to Clint, at \$47,490, to Dailey & Clark, Alexandria, La.

Paris, Tex.—Mayor E. H. McQuiston has awarded contract for the paving of Clarks-ville st., one of the principal thoroughfares, to the Shelby-Downard Asphalt Co., of Ardmore, Okla.; they will use Ardmore rock asphalt. The contract calls for paving this street, which is 1 1/2 miles in length, with a 2 1/2 rock asphalt surface with a 5-in. concrete base; the amount that is to be paid for the work on completion is \$75,000.

Tacoma, Wash.—The Barber Asphalt Paving Co. has been awarded the contract to pave portions of several streets in district No. 420 with asphalt; underbidding four other paving companies and lacking about \$32,000 of approaching the estimate of the City Engineer on this work, the Barber company landed the job with a bid of \$152,900. Wright & Sweeney were next, with a proposal of \$165,112. Other bids were as follows: Independent Asphalt Paving Co., \$166,894; B. W. Kibler, \$169,870; Wells Construction Co., \$171,886. The district to be paved is one of the largest in Tacoma. The following streets will be improved by a 24-ft. asphalt pavement: South 11th st. from G st. to Proctor st.; South 13th st. from C st. to Tacoma ave.; Pine st. from North 9th to South 12th sts.; Sprague ave. from South 11th to South 12th sts. Nearly two miles of pavement will be laid.

Two other contracts for street improvement work were awarded: The Puget Sound Cement and Stone Block Co. was given the grading job in district No. 622, which includes improvement of South 14th st. from Baker's Second addition to Grant ave. and 15th st. from O st. to Grant ave. The successful bid was \$4,742. Other bids on this work follow: Barrell & Miller, \$5,010; Coast Contracting Co., \$4,742.

Taylor & McQueen were given the contract to grade North 27th st. through the Second School Land addition on a bid of \$15,215. There were three other proposals submitted for this work—N. L. Goodwin bid \$15,479; Stoll & Holz, \$15,883, and D. Matheson, \$15,500.

Tacoma, Wash.—The Commissioner of Public Works has awarded to Bertelson & Son the contract for the street improvement work to be done in district No. 639. Pacific ave. from 35th st. to the city limits to be graded and cement sidewalks are to be built on either side of the street; Bertelson & Son will lay the sidewalks for \$23,690. Wright & Sweeney were awarded the grading contract, which is in district No. 640; their bid was \$22,940.

Racine, Wis.—James Cape & Sons captured the contract for paving 10th st. from Lake ave. to Wisconsin st. at a bid of \$1.24 per lin. ft.

SEWERAGE

Elmhurst, Cal.—Citizens will vote, July 10, on \$75,000 sewer bonds.

Fitchburg, Cal.—Citizens are discussing the proposed consolidation of improvement clubs of the place for the purpose of supporting the proposed issue of bonds for the construction of two sewer systems.

Mountain View, Cal.—Plans and specifications for the sewer system have been adopted.

Washington, D. C.—Engineer Commissioner Judson has issued orders for the construction of the following service sewers in the District, and for these improvements of streets: Sewer in the alleys between Franklin st., Michigan ave., North Capitol st. and Glenwood Cemetery; sewer in Potomac st. near Pennsylvania ave.; that a catch basin be constructed on the east side of Nichols ave. southeast, south of V st., at an estimated cost of \$70; that the surface drainage system along Nichols ave., between Park place and Hamilton road and Congress road, be remodeled, at an estimated cost of \$550, and that the streets in the subdivision of Anacostia be repaired with gravel, at an estimated cost of \$500.

Washington, D. C.—Upon motion of Engineer Commissioner Judson, the Commissioners have ordered that service sewers be constructed in B st. northeast, abutting lots 11 and 59 to 63, inclusive, of square 1069, and in 17th st. southeast, abutting lots 16 to 20, inclusive, and 41 to 42 of square 5612.

St. Augustine, Fla.—City has again taken up matter of a sewerage system.

Atlanta, Ga.—City has retained Consulting Engineers Hering & Fuller, 170 Broadway, New York City, to make report on sewage disposal works including sprinkling filters and settling basins.

Forsyth, Ga.—Citizens have voted \$15,000 sewer construction bonds.

Moultrie, Ga.—Bids will be received July 1 for \$20,000 sewer bonds.—W. D. Scott, Mayor.

Caldwell, Ida.—Council is considering the construction of a sewer district in Washington Heights, Fair Acres, Strahorn and Coandou additions.

Antioch, Ill.—Bids will be received by L. H. Hughes, Town Clerk, about July 1 for sewer system.

Lincoln, Ill.—Alderman Bollin has stated that a sewer was a necessity for the east side and would be a great relief for the west side; rubicon sewer is no longer able to care for all the drainage of the west side, and with additional paving, soon many cellars would be rendered useless; committee has been appointed to act with the City Attorney to investigate this matter.

Anderson, Ind.—By direction of two members of the Board of Public Works of this city, City Engineer Downey will make a survey and otherwise ascertain the probable cost of converting Greens branch into a sewer, an improvement that is estimated to cost from \$50,000 to \$75,000; stream passes through the west part of this city.

Greencastle, Ind.—The City Council Sewer Committee is discussing the plans for a sewer system for Greencastle; plans provide for a sewer for the entire town; engineers say the specifications and estimates will be completed by July 15; it is estimated the system will cost nearly \$100,000.

Kokomo, Ind.—The Board of Public Works will construct vitrified tile sewer in alley west of Masan from Peter Branch south to Defenbaugh.—W. F. Mann, City Engineer.

Shelbyville, Ind.—Council has decided to install a sanitary sewer system, and the clerk has been instructed to advertise for bids for the work; plans and specifications were drawn some time ago and the work will cost about \$60,000.

West Liberty, Ia.—A preliminary survey is being made with a view to constructing sanitary sewer system. Samuel N. Parsons, Marion, Engineer; Irwin Aikens, Town Clerk.

Kansas City, Kan.—Plans are being prepared by City Engineer W. M. Barclay for half mile of vitrified pipe lateral sewers.—J. E. Smith, City Clerk.

New Bedford, Mass.—The Aldermen have voted to build sewers in Arnold st., between James and Rotch sts., at an estimated cost of \$450; Rotch st., between Arnold and Union sts., \$600; Cleveland st., between David and Rotch sts., \$1,000; Maple st., west to Rotch st., \$300, and to extend the Earle st. sewer to North Front st., at an estimated expense of \$500, to relieve conditions which have been complained of to the Board.

Houghton, Mich.—Bids have been advertised for building the proposed sewer on Montezuma st.

Manistee, Mich.—City is considering construction of a lateral sewer in Lynn st. from Magill to 6th st.—J. Roch Magnon, City Clerk.

International Falls, Minn.—Citizens have voted \$20,000 for sewer construction.

Stanton, Neb.—Citizens are considering construction of a sewer system.

Winnemucca, Nev.—Citizens have voted bonds for the construction of a sewer system.

Trenton, N. J.—Mayor Walter Madden has signed ordinances for sewers in Beatty, Ashmore and Jersey sts.

Brooklyn, N. Y.—Bids or estimates will be received June 30, 11 a. m., for furnishing all the labor and materials required for reconstructing sewer outlet in 22d ave. from the end of the existing 24-in. pipe sewer to a point about 751 ft. into Gravesend Bay, in the Borough of Brooklyn.—Bird S. Coler, Borough President.

Brooklyn, N. Y.—The Board of Estimate has authorized the construction of the following sewers: Tremont st. from Richards st. to the existing sewer westerly therefrom; cost \$1,100; 85th st., north side, from 18th ave. to 20th ave.; in 85th st. from 20th ave. to 21st ave., and in 18th ave., west side, from 80th st. to 85th st.; \$42,600; New Utrecht ave. from 78th to 79th st.; \$900; 61st st. from 6th ave. to 7th ave.; \$3,800; 43d st. between 14th ave. and 16th ave., Borough of Brooklyn; \$10,000; East 2d st. from Ditmas ave. to 18th ave., and in Ditmas ave. from East 2d st. to East 3d st.; \$11,500; receiving basin at the easterly corner of 94th st. and Gelston place; \$200; receiving basins on Montauk avenue, at the southeasterly corner of Blake ave. and on the northwesterly corner of New Lots road; \$400.

Lyons, N. Y.—Citizens are opposed to the expending of \$1,000 to employ experts to draw plans showing the possibilities of making an outlet for sewers or the establishment of a sewage disposal plant, and to examine region for a pure water supply.

Schenectady, N. Y.—Alderman A. F. Tinnerholm has endeavored to get the members of the Board to go on record in the matter of the building of surface water sewers for the boulevard section.

Syracuse, N. Y.—An agreement between State and city officials has been reached by which the deepening of Onondaga Creek under the Erie Canal will be carried out according to the plans of the Intercepting Sewer Board; part of this agreement is that the city or the Intercepting Sewer Board will become liable to the State for any damages that may be done to State property.

Ashtabula, O.—Council has authorized the Board of Public Service to lay a storm sewer in Depot st., through the subway tracks at Lake st.—A. J. Richardson, Clerk.

Dayton, O.—Council has decided to proceed with the construction of a sanitary sewer in Ferguson ave.; also is considering plans for storm water sewer in Highland ave.

Fremont, O.—The city will in the near future sell bonds amounting to \$25,100 and use the proceeds for sewer purposes; Council has passed the necessary ordinance.

Kingsville, O.—The Ashtabula County Commissioners are considering the construction of a new tile drain and culvert under north ridge road at outlet of East lake, at Kingsville.—P. C. Remick, Jefferson, Clerk.

Warren, O.—Council has decided to install a sewer system on plans submitted by Engineer Alexander Cotter and to ignore the orders of the State Board of Health about building a double system; Council endeavored to arrange a meeting with the State Board to see if some cheaper system could not be agreed upon; this was refused by the members of the Board and Council at once decided to plan its own sewer system.

Frederick, Okla.—Bids will be received for the construction of a sewage disposal plant.—Samuel Kelly, City Clerk; N. Weren-skiold, Engineer.

Madill, Okla.—City will let contract in about 20 days for construction of sanitary sewer system; cost \$25,000.—S. D. Lipscomb, Engineer.

Ryan, Okla.—Citizens have voted \$18,000 sewerage bonds.

Chambersburg, Pa.—A resolution authorizing the building of a storm sewer from east of the C. V. R. R. at 3d south of Washington to the Conococheague through Harrison ave., Smith alley and Washington st., when \$1,000 from private subscription is guaranteed, has been favorably reported by the Ordinance Committee; sewer as planned would be 3 ft. in diameter, 2,864 ft. long and would cost \$4,000, including \$1,000 to be privately subscribed.

Hazleton, Pa.—The ordinance providing for the construction of a sewer system on North Vine st. from 6th st. and emptying into the Black Creek is being considered by the Sewer Committee.

Hazleton, Pa.—The City Engineer and City Solicitor have been directed to draw up an ordinance to be presented to Councils providing for a \$40,000 bond issue for the purpose of reconstructing the Diamond ave. sewer, which has been condemned.

and also for constructing the proposed new Vine st. sewer system.

Indiana, Pa.—Lawrence Barnum & Co., of Philadelphia, have purchased the \$40,000 borough bonds to build the new sewage plant.

South Bethlehem, Pa.—The Sewer Department proposes to expend \$11,650 for sewer construction.

East Providence, R. I.—The proposition to construct sewers in the Watchemoket Fire district has been adopted by the town. The Administration Board of the district was authorized to issue bonds to the amount of \$75,000, payable in 10 years, at 4½ per cent, to defray the expenses of sewer construction; a Board of Sewer Commissioners was appointed, consisting of Henry F. Anthony, Merrill R. Coombs and Joseph W. Sampson.

Providence, R. I.—The plunger pumps at the sewage pumping station at the Field's Point plant are to be replaced by pumps of the centrifugal pattern, this radical change in the equipment of the plant being necessitated by the excessive wear on the pump valves, due to the chemical action of the sewage and the wear on the moving parts of the pumping engine, due to operation.

Florence, S. C.—The Sewerage Commission will receive propositions from engineers who will prepare plans and specifications and supervise construction of sewer system; \$65,000 is available.—H. K. Gilbert, Chairman.

Franklin, Tenn.—Binghamton's legal acts, including that of the Legislature, in floating \$40,000 bonds to sewer that suburb and to construct a water plant, have been approved by the Chicago experts to whom the matter was referred; work will begin about July 1.

Nashville, Tenn.—There will be a special election Oct. 14, the date of the regular city biennial election, to decide whether or not the city shall issue \$500,000 of bonds for the construction of trunk sewers and the extension and betterment of the sewerage system of the city, if an ordinance, which will be submitted to Council, is adopted. At the last Legislature the issue was authorized, subject, of course, to the vote of the people, and this election will be merely in the line of carrying out the will of the Legislature in the matter.—W. W. Southgate, City Engineer.

Piano, Tex.—City is considering installation of a sewerage system.

Madison, Wis.—The Finance Committee is considering a \$65,000 bond issue for the construction of storm water sewers.

Marshfield, Wis.—City is considering construction of a sewer extension on Oak st. between 6th and 7th sts.—F. R. Pollard, Chairman Board of Public Works.

Rhineland, Wis.—City has ordered 8-in. sewers built in Dorr and Randall ayes.

St. Catharines, Ont., Can.—City Engineer Benzie has estimated the cost of the proposed sewer on York st., at \$7,200, and of that on Dacotah st., at \$1,080.

Victoria, B. C., Can.—Ratepayers have sanctioned by-laws for water works, sewers and local improvements amounting to \$225,000; a considerable amount of sewer construction is to be undertaken this season; about 20 applications for extensions have been received, to construct all of which will cost about \$30,000; the most extensive work is that on Queen's ave., which will be by a system of pumps; cost, \$11,700.

Auburn, N. Y.—Tabulation of bids for Sewage Disposal Plant for the 1st, 6th and 10th wards Sewer District—W. Thomas Woolley, C.E., City Engineer.

BIDS RECEIVED AND CONTRACTS AWARDED

Ensley, Ala.—Council, with President Rogers in the chair, accepted the bid of C. M. Burkhalter & Co. for the extension of the storm sewer on Ave. H; the total cost of the extension will be approximately \$12,500.

San Jose, Cal.—Bids for the construction of sewer in Clayton ave. were received as follows: James Casley, \$680; M. Montoya, \$745; S. F. Bennett, \$599.90; John McReynolds, \$625; awarded to S. F. Bennett.

Indianapolis, Ind.—The following are the lowest bids opened by the Board of Public Works for sewers: Washington boulevard sewer, A. D. Bowen, \$1.48 per lin. ft.; sewer in first alley north of Roach st., John Jenkins Co., \$1.15½ per lin. ft., and Beechwood Ave. sewer, Sheehan Construction Co., 85c. per lin. ft.

South Bend, Ind.—The Board of Public Works, June 22, let the contract for the Mead, Huron and Olive st. trunk sewer to O'Shea & O'Shea.

Waterloo, Ia.—Bids were opened, June 14, for the construction of sewers along certain streets in West Waterloo, and the contract has been awarded to Dearborn & Jackson, of Cedar Rapids, for \$26,770.

Topeka, Kan.—Bids on the Elmhurst sewer were opened June 21, but they were all above the estimates of the City Engineer and they were rejected without delay; the estimates of Mr. Rogers was \$7,644.21; City Clerk has been instructed to readvertise for bids and they will be received and opened at a special meeting of the Council Saturday afternoon.

Louisville, Ky.—Amounting to \$75,000, the contract for section C2 of the Beargrass intercepting sewer was awarded to T. J. O'Connell & Co., of Baltimore, by the Louisville Sewerage Commission. The sewer will be several thousand feet in length and will extend from the intersection of Broadway and Beargrass Creek northward, in the direction of the river. Four other firms, as follows, were represented in the bidding: E. A. Barker & Sons, Melrose Park, Ill.; Fruin Colman Construction Co., St. Louis, Mo.; E. G. Nave & Bros. Co., Portsmouth, O., and Henry Bickel Co., of Louisville.

Newport, Ky.—J. B. McLane, 337 York st., Newport, has secured contract for the 10th st. trunk sewer for \$19,288.

Grand Rapids, Mich.—The Board of Public Works has let contract to Vander Wiele Bros., at \$1,276.32, for constructing a sewer in Sunset ave.

St. Paul, Minn.—The contract for constructing the Prior ave. sewer system was awarded, June 15, to the General Contracting Co. of Minneapolis for \$61,900. It will include 4,639 lin. ft. reinforced concrete sewer, 36 to 42-in., and 3,594 lin. ft. vitrified pipe, 9 to 30-in.

South Nyack, N. Y.—Contract was awarded June 18 to John N. Heeney, White Plains, for seven sections of sewer by the Village Trustees.—Charles McElroy, President; Alfred Themans, Clerk. The bids follow: John N. Heeney, White Plains, \$7,137.78; extra rock, \$2.65 cu. yd.; Charles Cooke, Poughkeepsie, \$6,207.03; extra rock, \$3.75 cu. yd.; Guisepe Firenze, West Hoboken, \$10,465; extra rock, \$7 cu. yd.; Franklin Contracting Co., 1 Hudson st., New York, Daniel J. Marsh, \$13,750; extra rock, \$2 cu. yd.

Utica, N. Y.—For the reconstruction of that part of the Highland sewer from Erie st. to the south end of the pipe under the Erie Canal the following bids were received: A. M. Johnston, \$3,578.75; John R. Baxter, Jr., \$2,810; William M. Purdy, \$1,442.50; the latter bid was not accompanied by a bond and was rejected for that reason, while the remaining bids were then rejected as unreasonable, it being the prevailing opinion that the work could be done for half the sum; new bids will be asked.

University, Mo.—Wm. F. Riley, 617 Chestnut st., St. Louis, has received the contract for constructing sewer districts Nos. 1 and 2, at \$4,843.58 and \$9,663.83, respectively.—E. G. Lewis, Mayor; B. H. Colby, Security Bldg., St. Louis, Consulting Engineer.

Chillicothe, O.—The Board of Public Service opened bids on the proposed third extension of the Honey Creek sewer from five contracting firms as follows: F. M. Wise, Cleveland; Baccus Construction Co., Dayton; D. E. Sullivan & Co., Columbus; Jardine, Brewer & Tomlinson and W. H. Ringwald & Son, Chillicothe. An estimate has been given on the work by Engineer Redd at about \$21,000, but the Board decided that it ought to be done for less. The section will extend from the south side of Walnut st. to the north side of Water st. The bidding, as on previous occasions, was very close between D. E. Sullivan & Co., of Columbus, and Jardine, Brewer & Tomlinson, of this city; on both of the former occasions the local firm was successful and it again won out; the totals as compiled show that the bid of Sullivan was \$17,087.94, while the bid of the local company was \$16,857.36, or \$230.58 less.

Cleveland, O.—Contracts for the laying of three sections of intercepting sewer probably are to be let; John Wagner bid \$126,905.90 for section between E. 61st and E. 67th sts.; \$114,564.90 for section between E. 67th and E. 79th sts.; Wm. Lehman bid \$47,168 for section between Marquette ave. and E. 61st st.; these were the lowest bids.

Doranceton, Pa.—Bids were opened June 15 for constructing a main outfall sewer of reinforced concrete pipe through private lands from Wyoming ave. to the Susquehanna River, and the contract has been awarded to D. M. Rosser Engineering and Contracting Co., of Kingston, for \$28,947. Smith & Welles, 1003 Coal Exchange Bldg., Wilkes-Barre, Borough Engineers.

Philadelphia, Pa.—Contracts for sewers to the value of \$180,000 were awarded, June 22; Director Stearns awarded the contract for the Gunners' Run relief extension sewer on Indiana st., from A to Hancock st., to Lombardi & Pascuzzi, for \$50,000; Cottman st., from the Delaware River to Tacony st., to R. P. Bennis for \$32,000; Wissahickon high level cut-off extension in Stokely st., from Roberts ave. to Ainslie ave., to David McMahon, \$48,000; Shunk st. extension from Front to Fifth st., the Cantrell Construction Co., for \$50,000.

The Millard Construction Co. obtained a contract for supplying special inlets for Market st., for \$5,000; all the work is to be completed within 12 months.

Tacoma, Wash.—The Commissioner of Public Works, June 12, awarded to the Lister Construction Co. contract for the construction of a sanitary sewer in South 40th and 56th sts., from Sheridan ave. to Hosmer st., at \$41,200; there were seven bidders; City Engineer's estimate was \$48,810.

MATERIALS AND QUANTITIES	Brayer Brothers, Auburn, N. Y.	Albert L. Willey, Binghamton, N. Y.	Sherman, Parker & Beebe, Utica, N. Y.	Charles Ippolito, Auburn, N. Y.	Edward Fenno, Auburn, N. Y.	Clinton Beckwith, Herkimer, N. Y.	Daniel F. Strobel, Herkimer, N. Y.	Robt. McClenathen, Auburn, N. Y.	Rochester Constr. Co., Rochester, N. Y.
Price per cu. yd. for excavating earth and boulders containing 10 cu. ft. and under, 27,500 cu. yds.	\$0.40	\$0.41	\$0.37	\$0.45	\$0.71	\$0.50	\$0.53	\$0.40	\$0.40
Price per cu. yd. for excavating rock and boulders containing more than 10 cu. yds., 75 cu. yds.	3.00	4.00	1.00	5.00	4.00	2.00	2.00	4.00	2.00
Price per cu. yd. for grading, 3,000 cu. yds.	.40	.33	.30	.35	.20	.50	.35	.40	.35
Price per cu. yd. for concrete, 1,110 cu. yds.	8.00	8.25	8.50	9.00	9.30	8.50	10.00	8.00	8.90
Price per lb. for steel rods used for concrete masonry reinforcement, 80,000 lbs.	.05	.02½	.05	.03½	.037	.02½	.03½	.05	.04
Price per lb. for steel fabric used for reduction and Dosing Tank roofs, 8,000 lbs.	.10	.05	.05	.06	.05	.07½	.03½	.07	.05
Price per lb. for steel fabric used for concrete footings, 8,000 lbs.	.10	.05	.05	.07½	.06	.05	.03½	.07	.05
Price per cu. yd. for stone in place for contact beds, 9,000 cu. yds.	1.20	1.65	1.75	1.50	1.62	1.60	1.65	1.35	1.50
Price per lin. ft. in place for vitrified tile laid in and about contact beds and concrete walls, 24 in. pipe, 472 lin. ft.	.95	1.05	.94	.85	1.20	1.00	1.00	1.40	1.20
Ditto—15 in. pipe, 646 lin. ft.	.47	.45	.50	.55	.75	.50	.50	.50	.47
Ditto—12 in. pipe, 1,050 lin. ft.	.38	.35	.47	.27	.50	.40	.50	.37	.37
Ditto—10 in. pipe, 1,270 lin. ft.	.25	.28	.29	.24	.40	.30	.35	.30	.27
Ditto—8 in. pipe, 1,950 lin. ft.	.20	.23	.18	.15	.30	.25	.25	.22	.25
Ditto—6 in. pipe, 1,180 lin. ft.	.15	.19	.13	.12	.20	.20	.20	.18	.18
Price (lump sum) for all other materials and labor required, not inc. by above (except Item No. 1)	3,700.00	3,105.50	2,943.00	3,200.00	4,510.93	3,500.00	3,900.00	4,000.00	3,500.00
Total	\$43,440.52	\$44,460.10	\$46,210.88	\$46,148.90	\$56,583.83	\$48,054.50	\$51,473.00	\$45,044.70	\$45,380.32
Working days	200	125	125	140	225	150	200	200	130
Total, including working days	\$44,440.52	\$45,085.10	\$46,835.88	\$46,848.90	\$57,708.83	\$48,804.50	\$52,473.00	\$46,044.70	\$46,030.32

For automatic feeding and discharging appliances for contact beds, four sets complete, Merritt & Co., Camden, N. J., bid \$2,400, the Pacific Flush Tank Co., New York, N. Y., \$2,250, and the Rochester Construction Co., \$2,400.

stallation of larger water mains.—Address Mayor Straw.

Milton, Ore.—Citizens have voted \$15,000 bonds for water works and electric light extensions.

Portland, Ore.—Owing to inability of the Pittsburg Meter Co. to deliver the 5,000 meters of the type designated, the Executive Board will readvertise for bids.

Doylestown, Pa.—Borough proposes to construct a standpipe at once.—A. H. Clayton, Clerk.

Pittsburg, Pa.—Common Councilman W. J. Burke has announced that he will make a fight at the next meeting of the Finance Committee to obtain action on the ordinance authorizing the issuance of \$713,000 of bonds to build and equip a pumping station near the filtration plant that will pump filtered water to the North Side.

Franklin, Tenn.—Citizens will vote July 3 on \$35,000 bonds to extend water works and construct sewer system.

Halls, Tenn.—The Halls Light, Water and Ice Co. has been incorporated by R. A. Greer.

Memphis, Tenn.—Binghamton's legal acts, including that of the Legislature, in floating \$40,000 worth of bonds to construct a water plant and to sewer that busy suburb, have been approved by the Chicago experts to whom the matter was referred, and actual construction will be commenced by July 1.

Mission Ridge, Tenn.—The Mission Ridge Taxing District Commissioners will construct water works.—Robert P. Woodward, President, Miller Bldg., Chattanooga.

Childress, Tex.—The Attorney-General has approved a \$35,000 issue of water bonds.

Corpus Christi, Tex.—Citizens have voted \$90,000 bonds to purchase water works and extend mains.—J. W. Maxcy & Co., Houston, Engineers.

Ennis, Tex.—Council has sold the entire issue of \$13,000 water works bonds.

League City, Tex.—City is considering installation of water works plant; cost \$5,000.—J. E. Walker, Secretary League City Business League.

Pittsburg, Tex.—Bids will be received July 1 for the construction of dam and waste way of Ferndale Club Lake; approximate earth work, 8,000 cu. yds. and driving 250 ft. of sheet piling.—J. F. Reynolds, President Ferndale Club Lake.

Tyler, Tex.—Council has called an election on July 17 to determine whether bonds shall be issued in the sum of \$11,000 with which to lay water mains in the northern portion of the city.

Salt Lake City, Utah.—The Water Works Committee has decided to recommend that 12 sanitary drinking fountains be placed in the business district before the national encampment of the Grand Army of the Republic; Main st. will get five of these between South Temple and 4th South; State st. three, at 1st, 2d and 3d South sts.; West Temple st. three at the same intersections, and one at 4th South and State sts.; they will cost a total of \$780, or \$65 each.

Martinsville, Va.—City is considering installation of a filtration plant.

Suffolk, Va.—The Portsmouth Suburban Water Co. in agreements filed in the Nansemond County Clerk's office has acquired rights-of-way from numbers of property owners near the eastern suburbs and in Nansemond County; the purpose of the company is to build a new water main between here and Portsmouth.

Swanton, Vt.—Village has voted to issue bonds of \$95,000 to pay for water system.

Kent, Wash.—Bids will be received about July 15 for water works; cost, \$3,000.—Geo. F. Cottrall, Seattle, Engineer; L. E. Price, City Clerk.

Seattle, Wash.—A party of fifteen city officials has left for upper Cedar River, where they will look over the site on which a cement dam is soon to be erected for the purpose of retaining the flood water; proposed dam will be about 175 feet high at its highest point; dam will be located across the gorge which leads out of Cedar Lake and will allow the development of much electric power.

Tacoma, Wash.—Council is considering ordinances instructing the Commissioner of Public Works to ascertain and inform the City Council as to the best location for two 50,000,000-gallon reservoirs to supply highest point of high service and instructing the Commissioner of Public Works to immediately commence construction of a gravity water system from Green River.

Montreal, Que., Can.—The Water Committee has ordered plans for a high-pressure water system for the West Ward.

Vancouver, B. C., Can.—Citizens are considering establishment of a city water system, cost \$325,000.

Weston, Ont., Can.—Citizens will vote about \$55,000 for water works purposes.

BIDS RECEIVED AND CONTRACTS AWARDED

San Francisco, Cal.—The Board of Public Works awarded a contract for manufacturing the 1,200 hydrants for the auxiliary fire system to the Union Iron Works, at a cost of \$119.74 each, making the total value of the contract \$134,388; there is a provision inserted in the contract that the hydrants must be made in San Francisco by resident mechanics.

The Board received five proposals for the gate valves of the fire protection system; the bidders and the amounts follow: Pittsburg Valve Co., \$342,398.50; Union Iron Works, \$452,472.50; Pelton Water Wheel Co., \$398,698.10; Crane Co., \$469,061.50, and the Lally Co., \$421,857.60; the bids were referred to the City Engineer and samples of the valves will be submitted by the bidders.

Washington, D. C.—Bids for furnishing cast-iron water pipe to the District during the next fiscal year were opened in the board room of the District Bldg; the proposals for the several sizes of pipe were as follows:

Glamorgan Pipe and Foundry Co., 3-in. pipe, \$29.90 per gross ton; 4-in., \$25.42; 6-in., \$24.98; 8-in., \$24.57; 12-in. and 20-in. pipe of different thickness, \$24.02.

Lynchburg Foundry Co., 3-in. pipe, \$29.86 per gross ton; 4-in., \$25.86; 6-in., 8-in., 12-in. and 20-in. of different thickness, \$24.86.

United States Cast Iron Pipe and Foundry Co., 3-in. pipe, \$33.60 per gross ton; 4-in., \$29; 6-in., \$26.77; 8-in., 12-in. and 20-in. of several thicknesses, \$25.65.

Camden Iron Works, 3-in. pipe, \$40 per gross ton; 4-in., \$28.50; 6-in., 8-in. and 12-in., \$26.25; 20-in., of several thicknesses, \$25.50. It is specified that these are deliveries over the Pennsylvania railroad. For deliveries over the B. & O. railroad \$1 more per gross ton is charged on pipe of the 3-in., 4-in. and 6-in. varieties, and 50c. more on other sizes.

Standard Cast Iron Pipe and Foundry Co., 3-in. pipe, \$33.82 per gross ton; 4-in., 6-in., 8-in., 12-in. and 20-in., \$27.10.

Jasper, Ind.—Contract for constructing a concrete reservoir, bids opened June 7, has been awarded by the city to Edgar Traylor, of Jasper, at \$7,816.

South Bend, Ind.—W. H. Burke secured the contract for making water connections on Leland ave. and Notre Dame st.

Marshalltown, Ia.—The following are the bids, opened June 14, for an elevated steel tank, 165 ft. high, and holding 100,000 gals. of water: Chicago Bridge and Iron Works, Chicago, Ill., \$8,890; A. E. Shorthill Co., Marshalltown, \$9,150, and Des Moines Bridge & Iron Co., Des Moines, \$8,440.

Plainville, Kan.—T. C. Brooks & Son Co., Jackson, Mich., have been awarded contract for the construction of water works at \$16,000. The Penn Bridge Co., Dallas, Tex., secured contract for the tank and tower at \$2,253.—J. H. Burkholder, Engineer.

Baltimore, Md.—At a meeting of the Board of Awards, June 16, the Fire Board reported back on bids on pipe line, awarding

it to the Pittsburg Valve Foundry & Construction Co., of Pittsburg, Pa., for \$319,000, and on pumps, awarding contract to the Allis-Chalmers Co., of Milwaukee, Wis., for \$65,970.

Norway, Mich.—Contracts for addition to the gravity water supply system have been awarded by the city as follows: Pipe line, to Prendergast & Fallon, Chicago, Ill., at \$24,171; concrete tank, to same firm, at \$4,998; valves, to Ludlow Valve Manufacturing Co., Rookery Building, Chicago; meter, to Builders' Iron Foundry, Providence, R. I.; for steel tank, the following bids were received: John Striffer, Springfield, Ill., \$6,900; Chicago Bridge & Iron Works, \$4,670; Larry Hunt, Marinette, \$4,150; Canton Boiler & Engine Co., \$5,050; Fippett & Wood, Phillipsburg, N. J., \$5,072; Marquette Boiler Works (informal plan), \$3,927; Des Moines Bridge & Iron Co., \$5,160; John W. Alvord and Charles B. Burdick, Engineers, Hartford Building, Chicago.

St. Edward, Neb.—Contract has been awarded by the village to T. C. Brooks & Son Co., Jackson, Mich., for the construction of water works.—Charles F. Sturtevant, Engineer, Holdrege.

New York, N. Y.—Bids were received as follows, June 16, by John H. O'Brien, Commissioner Water Supply, Gas & Electricity, for (a) furnishing all the labor and materials required to construct and erect a purification plant at Oakland Lake, Third Ward, Borough of Queens; (b) hauling and laying water mains and appurtenances in the Borough of Brooklyn: (a) Robertson & Gerhardt, 186 Remsen st., Brooklyn, \$25,354; T. M. McVeigh, \$30,155; Fred T. Ley, \$25,983; Charles E. Frazer & Co., \$29,143; Hicks Johnson Co., \$31,686; Kelley & Kelley, \$34,897; James Kelly, \$25,993; Henry E. Fox, \$34,740; Pease Bros., \$28,403; Merrill-Ruckgaber Co., \$28,701; (b) Robert Carter & Co., 551 Prospect place, Brooklyn, Section 1, \$14,872, Section 2, \$13,280; John J. Cashman, \$18,858 and \$12,306; James Kelly, \$15,664 and \$10,240; Murphy Bros., Bay 25th st., Brooklyn, \$22,135 and \$9,149; Henry E. Fox, \$15,582 and \$9,718; Newman & Carey, \$16,466 and \$9,368.

Niagara Falls, N. Y.—Bids were received by the Water Commissioners, June 21, for the intake pipe in the Niagara River and the cribs for the new water supply system. Four bids were opened and that of the Buffalo Dredging Co., at \$63,800 was low. The Keck-Coddington Co., of this city, was next at \$68,450, while the A. F. Chapman Co.'s bid was \$72,500. The Cleveland Dredging Co.'s bid was \$99,900. The bids were referred to the City Engineer. The contract for the valves was let to the Ludlow Valve Co., of Troy, N. Y., at its bid of \$3,482.80. Bids for the traveling crane were also opened, and that of the Whitney Foundry Equipment Co. was low, at \$770. The other two bidders were the Cleveland Crane & Engineering Co., at \$790, and the Pawling, Harneschfeger Co., of Milwaukee, at \$1,150.

Cresson, Pa.—Contract for the new reservoir of Ivy View Water Co. was let to D. F. O'Rourke, of Altoona, and work will be commenced at once; the new reservoir will

New York, N. Y.—The Board of Water Supply, Gas and Electricity opened bids, June 9, for furnishing, delivering and laying high-pressure fire-service mains and appurtenances in Allen, Broome, Bayard, Canal, Cherry, Chrystie sts., etc., all in the district included between Houston st., Bowery, James st. and East River, and the following are the totals of bids received, also unit prices on some of the principal items: (a) Cunningham & Kearns, 444 E. 91st st., \$1,236,669; (b) Millard Construction Co., Philadelphia, Pa., \$1,249,946; (c) Goodman Contracting Co., E. 133d st., \$1,335,913; (d) Rodgers & Hagerty, 75 Henry st., \$1,042,992, awarded contract; (e) Harlem River Contracting Co., 21 Park Row, \$1,128,468.

	A	B	C	D	E
14,000 tons straight c. i. pipe.....	\$29.00	\$27.40	\$30.00	\$28.69	\$31.00
85 tons c. i. S. P. Cast. A.....	83.00	73.00	112.00	73.00	100.00
1,160 tons c. i. S. P. Cast B.....	72.00	66.00	98.00	69.00	100.00
480 tons c. i. S. P. Cast. C.....	62.00	54.00	70.00	55.00	100.00
135 tons C. S. Cast. B.....	200.00	185.00	170.00	85.00	150.00
350 tons miscell. c. i.....	67.00	50.00	70.00	49.00	80.00
10,100 lin. ft. 24-in. del. pipe.....	1.58	1.75	1.40	.81	.55
11,800 lin. ft. 20-in. del. pipe.....	1.22	1.35	1.12	.70	.55
40,000 lin. ft. 16-in. del. pipe.....	.95	1.05	.85	.59	.40
91,000 lin. ft. 12-in. del. pipe.....	.85	.70	.55	.47	.30
23,700 lin. ft. 8-in. del. pipe.....	.45	.50	.50	.28	.30
2,500 lin. ft. 12-in. low pres. w. pipe.....	.50	.60	.55	.50	1.00
200 lin. ft. 8-in. low pres. w. pipe.....	.50	.50	.50	.50	2.00
3,200 lin. ft. 6-in. low pres. w. pipe.....	.25	.50	.35	.40	1.00
400 lin. ft. 4-in. low pres. w. pipe.....	.25	.50	.35	.30	2.00
426,000 lb. wrought iron.....	.05	.06	.05	.04	.04
195,000 rolled steel shapes.....	.05	.06	.05	.04	.05
33-20-in. valves to set.....	30.00	25.00	25.00	6.19	10.00
85-16-in. valves to set.....	20.00	20.00	20.00	6.19	7.00
219-12-in. valves to set.....	10.00	10.00	15.00	5.06	4.00
550-8-in. valves to set.....	10.00	7.00	7.50	3.38	5.00
143,500 cu. yd. earth excav.....	.90	1.07	1.00	.56	.90
7,500 cu. yd. masonry excav.....	2.00	3.50	4.00	1.13	2.60
550 cu. yd. brick masonry.....	15.00	14.00	15.00	10.13	10.00
2,580 cu. yd. concrete masonry (1-3-6).....	6.00	6.50	8.00	7.31	4.00
9,220 sq. yd. asphalt, concrete base.....	3.50	4.50	4.00	3.20	2.00
26,750 sq. yd. asphalt, stone base.....	3.50	3.80	4.00	3.81	1.40
17,100 sq. yd. granite block, concrete base.....	1.75	2.00	3.00	1.60	1.30
7,000 sq. yd. stone block, sand base.....	.60	.75	.75	1.13	.40
3,900 sq. yd. wood block.....	4.00	4.40	4.00	4.50	3.00
11,000 sq. yd. bluestone flag.....	.50	.60	1.50	.05	.72
500 sq. yd. grano. walk.....	2.00	1.75	3.00	1.01	1.80
100 M ft. timber.....	50.00	40.00	55.00	.01	41.00

have a capacity of 30,000,000 gals., and will be located on Carnegie Hill.

Philadelphia, Pa.—Assistant Director Knight opened bids for a 45,000,000-gallon centrifugal pump for the Torresdale filtration plant. The bidders were the Drovoco-Doyle Co., \$16,060, specifying 95 days for completion; Henry R. Worthington, \$20,385, and 165 days; and the Atlantic Hydraulic Machinery Co., \$25,900, and 130 days.

Bidders for the equipment of a laboratory at the Torresdale plant were Edward Fay & Sons, \$3,975, and 60 days; and Henry E. Baton, \$5,467 and 60 days.

For constructing an electric cable for hauling purposes at the filtration plant the bids were: Standard Underground Cable Co., \$1,007.51, to be completed in 24 days; Walker & Kepler, \$1,055 and 28 days; and the D'Olier Engineering Co., \$1,094 and 30 days.

Reading, Pa.—Horace Fohr and James O'Rourke, city, were awarded a contract for relining and covering Buttonwood st. reservoir, for which bids were received June 27. The details of their bids were: Cleaning and grouting, \$181; 425 cu. ft. notching, at \$1.74; 645 cu. yds. reinforced concrete mastic, \$5.51; 1,200 barrels of cement, \$1.33; 74,300 lbs. steel reinforcement 0.027, 420 cu. yds. clay and sand lining, \$1.63; 85 cu. yds. sand lining, \$1.90; 1,525 sq. yds. brick lining, \$1.42; 11 cu. yds. rock filling, \$1.20; 17 cu. yds. sand filling, \$1.70; 1,090 cu. yds. earth filling, 70c.; 1,745 sq. yds. sodding, 30c.; the totals of all bids were: Ahrens Construction Co., Lewistown, Pa., \$19,909.99; W. W. Lindsey & Co., Philadelphia, Pa., \$18,924.50; S. W. Chiles, Bethlehem, Pa., \$14,836.23; H. E. Ahrens Co., Reading, Pa., \$16,130.75; Ambrose B. Stannard, New York, N. Y., \$35,389.50; Horace Fohr and James O'Rourke, Reading, Pa., \$13,691.75; Geo. H. Meinholds and John H. Wickersham, Reading and Lancaster, \$15,527.20; Albrecht & Leader, Reading, Pa., \$15,001.05.

Carl R. Camp, of Montrose, was awarded a contract for constructing Glen Gery Dam; the details of his bid were: Diverting water complete, \$500; pumping and bailing from creek, \$600; 200 cu. yds. excavation, \$4.80; 400 cu. yds. filling, 85c.; 600 cu. yds. concrete, \$5.10; 900 barrels cement, \$1.20; the totals of all bids were: Ambrose B. Stannard, New York, \$23,025; Carl R. Camp, \$6,540; H. E. Ahrens Co., Reading, Pa., \$7,075; The Ahrens Construction Co., Lewistown, Pa., \$11,251.

Geo. H. Meinholds has been awarded a contract for building a stable and wagon house for \$5,880.

Horace Fohr and James O'Rourke, city, have been awarded a contract for covering 10 street reservoirs. The details of their bid are as follows: 4,200 cu. yds. of excavation, 51c.; 250 cu. yds. puddle, \$1.63; 4,700 cu. yds. 1:2.4 concrete, \$5.58; 1,070 cu. yds. 1:2.5 concrete, \$3.30; 1,800 cu. yds. earth filling, 30c.; 4,600 cu. yds. cinder filling, 52c.; 205 cu. yds. broken stone filling, \$1.50; 300 cu. yds. sand filling, \$1.55; 12 cu. yds. brick masonry, \$7.00; 1,500 sq. yds. plastering, 51c.; 1,500 sq. yds. sodding, 22c.; 900 barrels Portland cement, \$1.33; stone steps, \$240; pavilions, \$3,522; placing iron work, \$70. The totals of all bids were: Ambrose B. Stannard, New York, \$113,000; The Ahrens Construction Co., Lewistown, Pa., \$77,734.30; S. W. Chiles, Bethlehem, Pa., \$55,604.75; W. W. Lindsey & Co., Philadelphia, Pa., \$67,685; Horace Fohr and James O'Rourke, Reading, Pa., \$52,992; Albrecht & Leader, \$64,774.50; Emil L. Muhling, Superintendent and Engineer; Edward Elbert, President Board of Water Commissioners.

Leon Springs, Tex.—Contract for a tubular well to be drilled at Leon Springs, and necessary work, has been awarded to J. W. Judson, of San Antonio, at \$20,000.

Lufkin, Tex.—City has awarded contract to Kit McConico, city, for constructing reservoir 1,000 ft. wide, half mile long and 20 ft. deep; contract calls for clearing space for reservoir, excavating same and constructing dam; pumping station will be installed and water piped to city, distance of three miles.

Barton Heights, Va.—City has awarded contract, at \$3,296.34, to I. J. Smith & Co., Richmond, for construction of 250,000-gallon reservoir.—Howard Whitlock, Engineer.

Tacoma, Wash.—John Galluci has been given the job of laying the new water mains in District No. 541.

LIGHTING AND POWER

Camp Hill, Ala.—City has selected E. B. Kay, University of Alabama, to prepare plans for electric light plant; power will be derived from independent hydro-electric station on Sandy Creek or from Dadeville, Ala., plant on same stream, by enlarging existing plant; \$10,000 is available.

Uniontown, Ala.—City has selected E. B. Kay, University of Alabama, to prepare plans for remodeling light and water station.

Auburn, Cal.—Wm. Mayer will install an electric lighting and power plant at this place.

Fruitvale, Cal.—Proceedings are to be undertaken by the District Attorney completing the lighting district which the citizens of this place decided to form by carrying the project at an election.

Oakland, Cal.—The Public Betterment Committee of Council and Manager Frank A. Leach, Jr., of the Oakland Gas, Light & Heat Co., are discussing the extension of the underground installation of wires.

Los Gatos, Cal.—The Board of Supervisors of Santa Clara County has secured an application from the Los Gatos Ice, Gas and Electric Co. for a franchise to erect transmission lines over the roads, streets and highways of the County for the distribution of electricity for lamps and motors.—Henry A. Pfister, Clerk of the Board.

National City, Cal.—The City Trustees are considering the improvement of the street lighting system.

Waterbury, Conn.—Superintendent David B. Neth of the Electrical Department of the Connecticut lines and interests in this city has announced that the sum of \$500,000 has been appropriated for the erection of a big power plant with all of the latest and most modern electrical equipment to supply power for a radius of 20 miles around; it has been definitely decided to locate this power plant on the company's property in the west end of this city, close to the present sub-station adjoining the old athletic field; estimates of the cost have been made, plans for the building have been drawn by the electrical experts; plant alone will cost \$375,000 and the total cost may reach \$500,000.

Hawkinsville, Ga.—City has awarded contract to M. C. McCreary & Co., Atlanta, Ga., for preparing plans for electric light plant; contract for construction to be awarded soon.

Savannah, Ga.—The People's Gas and Illuminating Co. has been organized with \$1,000,000 capital stock by Mills B. Lane, R. M. Garbutt and John H. Strous of 301 Bay st.; establishment of plant with capacity of 18,000,000 to 25,000,000 cu. ft. per month is being considered; correspondence is desired with manufacturers of gas plants and with gas engineers relative to construction.

Mishawaka, Ind.—The Booster Club will endeavor to install new lighting system with lights every 50 feet in clusters on iron poles, from the river bridge to Grove st. on Main st., the same as on the south side of the river.

Tipton, Ind.—City is considering the extension of the electrical service to the farmers in the north and west sections of the town.

Fairfield, Ia.—The Fairfield Gas & Electric Co. will expend about \$25,000 in improvements.—C. H. Norwood, Chicago, Ill., Engineer.

Grundy Center, Ia.—The local Electric Co. will change the street lighting system to series tungsten lamps and install a small engine.—J. B. Calderwood, Manager.

Le Mars, Ia.—The local Water and Light Co. is planning to install new generator, changing from 120-cycle to 60-cycle direct belted.

Wakeeney, Kan.—Citizens will soon vote on \$20,000 bonds for an electric light plant and a new city hall.

Valley View, Ky.—The Lexington Interurban & Railways Co. will soon begin construction of proposed power plant at Valley View; cost \$250,000.—I. L. Oppenheimer, General Manager; H. R. Palmer, Norfolk, Va., and Fred Sargent, Chicago, Ill., Consulting Engineers.

Kennebunk, Me.—Town has voted to raise \$5,000 for the enlargement of the electric light building and to lease any surplus power or room to the Goodall Manufacturing Co., of Sanford.

Union Bridge, Md.—E. A. C. Buckley has decided to erect an electric light plant.

Boston, Mass.—Superintendent of Streets Emerson is ready to make another contract for street lighting; this one is for the small lamp lighting on the streets and in the parks, which costs the city approximately \$350,000 annually at present; bids will be asked for a five-year contract upon plans which he personally prepared.

Lawrence, Mass.—The Committee on Streets and representatives of the Lawrence Gas Co. and the Merchants' Association are considering placing new ornamental arc lights on Essex st. in place of the old, ungainly posts and uneven arcs.

Lowell, Mass.—The Board of Aldermen has referred to the Committee on Appropriations the order for the transfer of \$2,000 from the general treasury fund to provide for better lighting in Middlesex, Merrimack and Central sts.

West Springfield, Mass.—The Selectmen have decided to install gas lights in Westfield st. from Maple terrace to the bridge in Tatham; they are planning to install 100-candlepower lights along the street, but these new lights will not be as numerous

as is the number of 40-candlepower electric lights that will be cut out from further use.

Belle Plaine, Minn.—Borough Council has granted a franchise to Messrs. Arndt & Rockwater, of St. Paul, to operate an electric plant.

Brandon, Miss.—W. F. Owen is interested in the establishment of electric light plant; capacity 300 lights.

Silver Creek, Miss.—City is considering the granting of a franchise for electric light plant.

Butte, Mont.—Alderman Dunks, of the Seventh Ward, is urging the installation of 11 electric lights in his ward.

Sutton, Neb.—Council has called an election on July 23 to vote on the proposition to issue \$39,000 in bonds for the acquisition of local electric light plant and extensions to the water works system.

Hoboken, N. J.—The Citizens' Light, Heat and Power Co., city, which will, according to a resolution recommending a franchise passed lately by the Hoboken Common Council, be permitted to compete with the Public Service Corporation, providing they can erect a plant and get in readiness to supply light within a year, will soon hold a meeting of the Board of Directors for the purpose of making plans for a plant and for the laying of conduits and stringing of wires.

Irvington, N. J.—Town Council has decided to invite bids for installing a municipal lighting plant, and also to advertise for proposals for lighting the town with electricity or gas for terms of one, three, five and ten years by private corporations or individuals; estimates for the municipal plant are to be received at the first meeting in September; proposals for street lighting are to be opened July 6.

Orange, N. J.—The Street Committee of Council has decided to recommend to the Council the appointment of the firm of Runyon & Carey, of this city, as consulting engineers in establishing the municipal lighting plant.

Williamstown, N. J.—The Township Committee has decided to place eight more street lights.

Brooklyn, N. Y.—Bids or estimates will be received by the Commissioner of Water Supply, Gas and Electricity June 30 2 p. m., for furnishing gas for and to the public lamps on the streets, supplying gas, etc., for new lamps when required and for furnishing gas to public buildings from July 1, 1909, to December 30, 1909, both inclusive; also for lighting streets, avenues, public buildings, parks and public places in the Borough of Brooklyn.—John H. O'Brien, Commissioner.

Buffalo, N. Y.—The Board of Aldermen has adopted report of Financial Committee recommending the burial of the overhead wires of the Police and Fire departments.

New York, N. Y.—Secretary of Commerce and Labor Nagel, at Ellis Island, discussed with the Commissioners plans for the erection of a new \$80,000 electric lighting plant at the station.

Theresa, N. Y.—The Hydro-Electric Power Co. will add to its plant in the near future one pair of twin water wheels and a generator.—George P. Schwartz, Secretary.

Bellefontaine, O.—Arthur Hartzler has purchased the West Liberty electric light plant for \$10,000, and it will be operated under private ownership.

East Youngstown, O.—The Lighting Committee, Ovidius De Fogarassy, Chairman, is considering the installation of lights in this village.

Lima, O.—Council has received seven petitions for lighting.

Bartlesville, Okla.—The Bartlesville Light and Water Co. will operate 1,700-h.p. electric plant.—S. J. Smallwood, President.

El Reno, Okla.—T. J. Rasp, J. J. O'Donnell, J. M. Gunn and A. W. Masson have been granted a franchise allowing them to conduct and operate a natural gas works in this city, and the use of the streets and alleys, roads and avenues for the purpose of laying mains and making repairs; length of the franchise is twenty years.

Ryan, Okla.—Citizens have voted \$6,000 electric light bonds.

Hermiston, Ore.—The Rose City Electric Co., Portland, has applied for a franchise to install an electric light plant; cost about \$15,000.

Milton, Ore.—Citizens have voted \$15,000 bonds for extensions to the municipal electric light plant and water works system.

St. Helens, Ore.—Council has received an application from the McCormick Co. for a franchise to construct and operate an electric light plant; cost about \$12,000.

Berwick, Pa.—In order to span the Susquehanna River at Berwick, where it will transmit its power to the Columbia Power, Light and Railways Co., the Harwood Electric Co. has arranged to erect huge towers on either side of the river.

Harrisburg, Pa.—The Water and Light Committee has decided where the 15 arc lamps provided for under the general appro-

priation bill shall be placed; Penn and Dubbs, Kunkel alley and Lawton between Calder and Rely; Logan and Granite, 3d and Curtin, 17th and Briggs, 18th and Regina, 15th and Catherine, 16th and Catherine, 18th and Wayne, 13th and Sycamore, 19th and Market, 7th and York, Columbia and Agate and 4th and Muench.

Johnstown, Pa.—Councils have adopted the resolution providing for the erection of arc lights on the following thoroughfares, reported with a favorable recommendation by the Water and Lights Committee: At the intersection of M and Bream sts., Grove and Frederick, First and Highland, Boyer and School, Bridge, Coal, Baumer, Sharman, Garfield, Kennedy, Ebensburg road, Good alley, School place and Walnut st., Peelor, Agnes, Huber and Horrocks, Morrell place and Lincoln st., Beach and 7th, Irene and Edmund, Jones and Quigley.

Philadelphia, Pa.—The Fifty-seventh St. Improvement Association is urging an adequate lighting system for Carroll Park.

Columbia, S. C.—The Southern Power Co. will extend its transmission lines to Columbia; Council will be asked for a franchise to erect its wires for the distribution of electricity.

Chattanooga, Tenn.—The Chattanooga Railways Co. and Chattanooga Electric Co. will make improvements to electric system, including installation of 2,500-h.p. engine and generator in main plant of electric company and a 1,000-h.p. rotary in substation at Ridgedale.—M. S. Hopkins, Vice-president.

Halls, Tenn.—The Halls Light, Water and Ice Co. has been incorporated with \$25,000 capital stock by R. A. Greer, L. S. Prescott, E. R. Parham, T. B. Caldwell and C. D. M. Greer.

Memphis, Tenn.—The Memphis Street Railway Co. is considering erection of addition to power house and installation of engine and generator.—T. H. Tutwiler, Manager.

Brenham, Tex.—William Perry, Manager Brenham Compress, Oil and Manufacturing Co., Brenham, Tex., desires information and prices on gas producer.

Crosbyton, Tex.—Chicago capitalists are planning construction of water-power-electric plant at Silver Falls, on White River; electricity will be transmitted for light and manufacturing.—F. E. White, Secretary Crosbyton Commercial Club, is interested.

Greenville, Tex.—Citizens have voted \$50,000 bonds for improvements to light plant.

Fort Worth, Tex.—Steps have been taken looking to the piping of natural gas from Clay County field to this city, a distance of about a hundred miles, where the fuel will be used by industrial concerns and for domestic purposes; the company which has been organized to put this project through has a capital stock of \$1,000,000.

Mineral Wells, Tex.—There is a movement on foot to supply Dallas, Fort Worth, Mineral Wells and other North Texas cities with natural gas, drawn from a field which will soon be prospected in Palo Pinto County; J. C. Lord, Manager of the Fort Worth Light and Power Co., has verified leases for upwards of about 25,000 acres of land in this county, which had been secured by N. S. Murdock, an expert oil and gas man who has been securing the holdings on which test wells will immediately be sunk; in the event a sufficient supply of gas is promised, arrangements for piping it to Fort Worth, Dallas and other points will be considered.

San Marcos, Tex.—Council will grant additional 25-year franchise to San Marcos Electric Light Co.; system will be extended.

Sinton, Tex.—J. M. Greer, Livingston, has decided to establish electric light system in connection with 10-ton ice plant.

Temple, Tex.—E. K. Dunbar, Boston, Mass., is interested in establishment of \$100,000 gas plant.

Salt Lake City, Utah.—The Improvements Committee will recommend the doubling of the lights in the business district and the placing of sanitary drinking fountains before the National Encampment of the Grand Army.

Brookneal, Va.—The Staunton River Power Co. has arranged with New York capitalists for proposed water-power-electric plant; 8,000 to 10,000 horsepower will be developed for transmission of electricity from the Staunton River.

Columbia, Va.—T. R. Willard, Columbia Milling Co., Columbia, Va., will purchase a 25 to 35-light electric dynamo; 110 volts; low speed; volt meter and equipment complete.

Hampton, Va.—George A. Schmelz, of Schmelz Bros., Newport News, Va., has purchased the \$7,500 plant of Hampton & Phoebus Gas Co.

Richmond, Va.—Contracts recently let for the construction of the proposed municipal electric light and power plant, on site of old pump house, will be rescinded, and new bids called for; bids were opened for this work on April 27 by E. D. Richardson, Chair-

man Committee on Electricity.—E. W. Trafford, Chamber of Commerce Bldg., Engineer.

North Yakima, Wash.—The Central Heating Co. has been granted a franchise to build and operate a plant.

Seattle, Wash.—The petition of Adams & Millholland for an electric lighting franchise for Riverton and vicinity has been set for final hearing by the Board of County Commissioners on July 29.

Seattle, Wash.—Citizens are urging that the streets leading to the exposition grounds be lighted with arc lamps, distributed at least one to a block.

Spokane, Wash.—The Columbia Water Power Co., backed by Spokane men, will dam and harness the Methow River, in Oakanogan County, to develop light and power for the towns of Brewster, Pateres, Bridgeport and Methow, and will utilize part of the power to pump water from the Columbia River to irrigate a large tract of land; power plant and mile-long flume will cost about \$50,000.

Tacoma, Wash.—The Commissioner of Public Works has recommended the purchase of 2,500 cross arms for the use of the city Light Department.

Tacoma, Wash.—Council is considering an ordinance instructing the Commissioner of Public Works to install lights at every street intersection within city limits where there is a street car track upon one or both streets, provided poles and wires are now in place at such intersections.

Bridgetown, N. S. Can.—Town will install a new system of lighting; special committee of the Council is investigating.

Kelowna, B. C., Can.—The electric power house at this place has been destroyed by fire with a loss of \$10,000.

BIDS RECEIVED AND CONTRACTS AWARDED

San Francisco, Cal.—The San Francisco Gas and Electric Co. put in a bid for street lighting as follows: Gas lamps, .06548c. a lamp for all night, .05c. for each lamp of a triple cluster, 20.712c. for each arc light all night, 13.80c. for each arc light burning till midnight, electrolights, 20.712c.; for lighting the public buildings the bids were: For each gas lamp, 60c. a 1,000 ft.; for electric current within a building for light and power, 3 1/2c. a kilowatt hour; for each arc light within a building, 2 1/2c. a lamp hour. The former rate was 4c. a kilowatt hour, and it is expected that \$6,000 will be saved by the reduction on this item.

San Francisco, Cal.—The Artificial Lights Committee of the Board of Supervisors declined to award the contract for street lighting for the next fiscal year until a conference could be had with President Britton. The bid this year shows a saving of about \$4,000 over that of last year, but with the addition of more lights the gross expenditure will be larger. The bid of a year ago was .087 cents a lamp each night, against .06548 cents this year; the contract now in force ignored the rate per lamp and provides for the payment of the flat sum of \$325,000. It is expected that in the conference with Britton he may be induced to give more lamps without increasing the total expenditure.

San Jose, Cal.—For lighting municipal buildings, clock tower and electrolights the United Gas and Electric Co. was the only bidder: Buildings and clock tower with gas, \$1 per 1,000 feet; electricity, 6c. per 1,000 Watt hours; electrolights, each, \$4.20 per month; referred to the Finance Committee.

Bridgeport, Conn.—The Board of Park Commissioners has approved a new contract which was made by President George M. Eames with the American Street Lighting Co. for lighting Seaside and Beardsley parks with gasoline lights; six new lights are to be installed in Beardsley Park and ten additional lights in Seaside Park, making the total number of gasoline lights in both parks approximately 100.

Douglasville, Ga.—Carter & Gillespie, 40 North Broad st., Atlanta, have secured contract for constructing electric light plant, to cost \$10,000.

Pittsfield, Mass.—The Pittsfield Coal Gas Co. has awarded contract to the Cruse-Kember Co. to build a gas holder of 750,000 cu. ft. capacity; it will be built of steel, 131 ft. high and 109 ft. in diameter, and cost about \$50,000.

Detroit, Mich.—The Public Lighting Commission, June 14, awarded contract for building conduit on Grand River ave., from Washington ave. to 12th st., to Charles B. Cole; estimated cost, \$14,803.

Ft. Totten, Willet's Point, N. Y.—Bids were opened June 22 by the Quartermaster for an electric lighting system at this post; Coburn & Cook, of Newport News, Va., secured the contract for a total of \$15,374.

Valley City, N. Dak.—The contract for erecting central power steam heating and lighting plant for Normal School has been awarded to Andrews Heating Co., of Min-

neapolis, Minn., for \$26,000.—G. A. McFarland, President, State Normal School.

Dayton, O.—Seven firms submitted bids to the Service Board June 24, to sell the city an engine and an electric generator for the Keowee st. pumping station. The apparatus is to be used in producing power at the plant, so the city can make its own light and save money on the deal. The engine is also to be employed in cleaning out the various sewers or to run the apparatus that does the work. The bidders are: Brownell & Co., Mark M. Troup, C. W. Hosler, Walter G. Stephens, Patterson Tool & Supply Co., William Hall Electric Co. and the Dayton Electric Engineering Co. Some of the bids are on engines of 35 h.p., while the city specified that they should be 40 h.p. They ranged in price from \$1,400 to \$2,900. On the face of the proposals the Brownell Co. appears to be the lowest. All were referred to William J. Harris, Manager of the Water Works Department, for tabulation.

Hobart, Okla.—The Oklahoma Midland Electric Railway Co. has awarded a contract to the J. A. Kauffman Co. for the construction of two 8,000 h.p. water power plants.

Salem, Ore.—A contract for rewiring the State Capitol has been let to the Pacific Electric Engineering Co.; the price was \$5,212. The other companies submitting bids were the West Coast Engineering Co., \$5,474, and the Western Electric Works, \$5,890.

Brownsville, Pa.—Following are the bids opened June 9 at the office of Major H. C. Newcomer, Corps Engineers, U. S. A., Pittsburg, for furnishing and installing a water power air compressor plant at New Lock 5, Monongahela River, Brownsville: Hall Steam Pump Co., Pittsburg (6 bids), \$4,850 to \$5,625; the Trump Mfg. Co., Springfield, O., \$6,570, and the Pittsburg Gage & Supply Co., Pittsburg, \$6,504.

Schuylkill Haven, Pa.—The Borough Council has awarded the contract for improving the municipal electric light plant to Jere Woodring & Co., of Hazleton, for \$10,620; the contract calls for the following: One 4-valve engine, one 200-k.w. generator, one 200-h.p. boiler, one switchboard complete in operation, one feed pump, belting and all necessary attachments; work is to be completed by Oct. 1.

Tacoma, Wash.—Bids for 45,000 pounds of copper wire were received and the contract went to Bowie & Lowe, whose bid amounted to \$7,492.50; other bids were as follows: Electrical Appliance Co., \$7,710.50; Sterling Insulated Co., \$7,582.50; Hoffman & Co., \$7,602.

FIRE EQUIPMENT

Birmingham, Ala.—The Fire Committee has recommended that the resolutions to establish a paid fire department in the Tenth Ward and the purchase of a motor fire engine for the Fountain Heights fire station be adopted.

Monterey, Cal.—Citizens have voted \$14,000 for fire apparatus and houses.

Redlands, Cal.—City Trustees have started proceedings calling for a bond election for \$60,000, of which \$20,000 is to be for additional fire protection, \$20,000 for the purchase of a city hall site, and \$20,000 for the erection of a building on such site; the principal change to be made under the plan is the establishment of three fire companies instead of one; it is first proposed to buy a lot on the north side of the city for \$500 and erect thereon a \$2,000 fire department building; then it is proposed to erect a \$2,000 structure on the lot already purchased for that purpose by the city on Alvarado st., on the Heights; apparatus now in the central station on Central ave. is to be moved to the Heights department and new apparatus purchased for the central station; it is proposed to purchase a new hook and ladder outfit to cost about \$2,500, and a new automobile chemical wagon and hose wagon combined at a cost of about \$4,500, making a total of \$7,000; a wagon for the North Side department will cost \$1,000, and five new horses will be needed at a cost of \$1,500, also harness at a cost of \$325; it is also proposed to buy 2,000 ft. of additional fire hose, at a cost of about \$2,000, and to put in fifty new fire hydrants throughout the city at a cost of \$2,500.

Sisson, Cal.—City has decided to purchase more fire hose.

South Manchester, Conn.—City will secure an automobile chemical.

Thompsonville, Conn.—Chief Hines has recommended the securing of 500 ft. of hose, a steam gong, bells in officers' houses and six new alarm boxes.

Augusta, Ga.—The question of selling the hook and ladder station and using the money toward the erection of a new headquarters for the Fire Department is being considered by Council.

Homer, Ill.—City has decided to build an engine house at once.

Sioux City, Ia.—Fire Chief Kellogg has been authorized to purchase helmets for his department.

Atchison, Kan.—Council has passed a resolution authorizing the City Clerk to advertise for bids for the sale of the city hall building, across the street and a few feet south of the fire station; the idea of selling the building is to use the money for a new fire station on the city's lot.

New Orleans, La.—City has appropriated \$1,500 for alterations to the home of Truck 1 on Jackson st.; appropriations have also been made for sites to build an engine house in the Eleventh Ward and two in the Thirteenth Ward.

Bangor, Me.—A hose house will be built in Ward No. 2.—Address Chief Mason.

Topsham, Me.—City has decided to reorganize the fire department and purchase 500 ft. of hose and two new reels.

Amesbury, Mass.—City will build a two-way fire station this summer.

Lenox, Mass.—City will expend \$10,000 on the erection of a station and the purchase of apparatus.

Malden, Mass.—Council is considering an order calling for the appropriation of \$5,500 for the purpose of purchasing a "horseless" combination wagon for the Ashland street station.

New Bedford, Mass.—An automobile engine for the fire department, to be stationed in the rapidly growing north district and to replace the fire fighting apparatus now stationed at Lunds Corner, has been advocated by Chief Dahill.

Revere, Mass.—City will purchase an automobile chemical fire engine.

Detroit, Mich.—Council has authorized the Fire Commissioners to erect an engine house.

Grand Rapids, Mich.—Architects Williamson & Crow have prepared plans for a \$25,000 engine house.

Mount Clemens, Mich.—Town has decided to purchase 500 ft. of hose.

Crookston, Minn.—Council is considering the rejecting of bids received for a hose wagon and the purchase of 1,000 ft. of hose in place.

New Prague, Minn.—Fire Chief A. J. Rynda has petitioned for 250 ft. of hose and a shut-off nozzle.

Goffs Falls, N. H.—Town is considering purchase of a reel and 2,000 ft. of hose.

Laconia, N. H.—City will purchase a combination chemical wagon and will equip a hose wagon with two chemical tanks; cost \$4,000.

Laconia, N. H.—The Committee on Fire Department has decided to install a new indicator at the Elm st. station at Lakeport.—A. W. Spring, Chief Engineer.

Gloucester, N. J.—City is considering a new fire house and other department improvements.—Address Chief Meale.

Millville, N. J.—The Board of Underwriters is urging the improvement of the fire fighting system.

Altmar, N. Y.—Town will purchase a fire engine.

Garden City, L. I., N. Y.—Associate Architects Ford, Stewart & Oliver and L. S. Butler, New York City, have prepared plans for a \$12,000 engine house for this place.

Geneva, N. Y.—The matter of having the old fire truck repaired or of purchasing a new truck came up before Council in the form of a communication from the Board of Fire Commissioners; communication gave the estimates for the repairs of the present truck, and also the price of a new truck; opinion of the Fire Commissioners, as expressed in the communication, is that it would pay the city to purchase a new truck and to keep the present truck for use in emergencies.

Lockport, N. Y.—Council has decided to issue \$4,000 bonds for a new aerial truck.

Penn Yan, N. Y.—Fire Chief Harrison is urging the purchase of 500 ft. of hose.

Asheville, N. C.—City is considering the building of another fire house and the securing of a 50-gallon chemical fire extinguisher.

Madisonville, O.—City has awarded \$10,000 4 per cent fire department bonds to Rudolph Kleybolte & Co., at \$209 premium.

Muskogee, Okla.—Chief John L. Templeton has asked city for two fire engines, one auto hose wagon, chemical combination, one chief's automobile, with chemical tank, fire alarm telegraph, one aerial truck, two engine houses, ladders, nozzles, deluge sets, hose jackets, gate valves, recording water pressure gauge.

Portland, Ore.—The Executive Board has rescinded the order given A. G. Long for two fire engines and will readvertise, giving specifications which will insure competition.

Butler, Pa.—The Fire Committee has decided to employ Architect Eckes, of New Castle, to prepare plans for the fire station to be located in the central part of this city.

Butler, Pa.—Citizens are urging the installation of auto fire equipment.

Harrisburg, Pa.—The four bids received for the proposed combination chemical

wagon for the Paxtang Fire Co. have been rejected; new specifications will be drawn and bids asked; the American-LaFrance Co., with a bid of \$1,548, was the lowest bidder.

Lebanon, Pa.—Council has given second reading to bill making an appropriation of \$250 for the purpose of purchasing 21 rubber coats, 21 rubber caps, and 21 rubber boots for use of the new Fire Police.

Reading, Pa.—The Committee on Fire has decided to have drawn up specifications preparatory to advertising for proposals for a new steamer for the Union Fire Company.

South Bethlehem, Pa.—The Fire Department proposes to expend \$56,716.94 this year; of this amount, \$2,500 is for the reconstruction of the fire alarm system.

South Bethlehem, Pa.—Council is considering an \$8,000 appropriation for the erection of a suitable house for the Good Will Fire Co.

Wilkes-Barre, Pa.—Two chemical wagons, one horse-drawn and the other of the auto type, are to be added to the equipment of the local fire department, the members of the Fire Committee adopting the specifications as returned by the sub-committee; each of the wagons will be of standard construction of the red color adopted by the department; wagons will be stationed at Nos. 1 and 2 houses.

Wilkes-Barre, Pa.—Architects Reilly & Schroeder will prepare plans for a \$15,000 station house.

Memphis, Tenn.—Council has passed ordinance authorizing \$260,000 bond issue for erection of combined fire and police station.

Beaumont, Tex.—P. A. Hesig and J. T. Booth have been appointed a committee to select and purchase uniforms for the firemen and policemen.

Hillsboro, Tex.—City has purchased site and will erect \$16,000 fire station and City Hall.

Portsmouth, Va.—The Fire Committee has decided to advertise for bids for supplying the city with 3,000 ft. of fire hose for the use of the department, which is in need of hose just at this time.

Wausau, Wis.—City is securing estimates on a fire engine, hose carts, chemical engine and other apparatus.

BIDS RECEIVED AND CONTRACTS AWARDED

Augusta, Ga.—The Webb Motor Manufacturing Co. has received the contract from the city for the building of two fire-fighting machines and the work will be started on them at once. The machines will be delivered to the Fire Department in about five weeks.

Joliet, Ill.—Alderman Harney, Chairman of the Committee on Fire, recommended the awarding of contract for a new aerial truck ladder to the LaFrance Fire Engine Co., of Elmira, N. Y., its bid of \$5,800 being adjudged the lowest and most favorable, and Council so voted.

Evansville, Ind.—The Scarborough-Davis Co. offered a bond of \$4,576 for its contract for the new hose house at Grand and Washington aves.

Philadelphia, Pa.—New bids were opened in the Department of Public Safety, June 22, for the fire and police patrol houses, the former bids having been in excess of the total amount of the appropriation. The bids are:

For a police, fire and patrol house, 10th and Buttonwood sts.—John R. Wiggins & Co., \$53,000, to be completed in 153 days; James B. Doak & Co., \$54,875 and 140 days; Henry E. Batton, \$57,706 and 149 days.

Police station and patrol garage at 8th and Jefferson sts.—John R. Wiggins & Co., \$44,000 and 110 days; Doak & Co., \$44,615 and 100 days; Batton, \$47,669 and 110 days, and John H. Jordan, \$46,837 and 120 days.

For patrol and fire station and garage, Belgrade and Clearfield sts.—Wiggins & Co., \$67,500 and 150 days; Abel Bottoms, \$67,993 and 150 days, and Doak & Co., \$71,500 and 100 days.

Fire station at Germantown ave. and Brighthurst st.—Wiggins & Co., \$30,000 and 90 days; Bottoms, \$30,887, and 120 days; Batton, \$32,527 and 90 days, and Doak & Co., \$32,908 and 85 days.

ELECTRIC RAILWAYS

Sacramento, Cal.—The Northern Electric Co. will make application for a franchise on 2d st. from X to M.

San Francisco, Cal.—The Sunset Improvement Club is urging the extension of the Geary st. line into the Sunset District.

Stockton, Cal.—\$500,000 bonds of the projected railway between this city and Modesto have been sold, and construction work will begin as soon as Manager Brackett of the road arrives from New York; preliminary surveys have already been made and rights of way have been completed.

Hartford, Conn.—The Connecticut Co. is planning to extend line from Middletown to Durham, a distance of about 4 miles.—C. C. Elwell, New Haven, Chief Engineer.

Boise, Ida.—The stockholders of the Boise Valley Electric road have subscribed \$73,000 with which to furnish the last five miles of the road into Nampa; work will begin at once.

Moscow, Ida.—City has granted franchise to the Spokane & Inland Empire Railroad, Spokane, to build and operate an electric railway.

Charleston, Ill.—The Charleston, Westfield, Marshall & Terre Haute Electric Railway Co. will soon begin the construction of its proposed 12-mile electric railway; it will be necessary to construct a concrete bridge.—N. S. Cook, Engineer.

Evansville, Ind.—Plans for the connection of Evansville with the Kentucky and Illinois towns by traction were consummated when representatives of foreign capital decided on extension of the Madisonville, Hartford & Earlinton road, recently completed to that town; venture calls for the expenditure of \$1,200,000 and will require a force of men considerably more than a year in completing the undertaking; it is proposed to connect Kentucky with Indiana by a bridge across the Ohio at Shawneetown, Ill., from Morgantown, Ky.; from Shawneetown a traction will be extended to Evansville by a circuitous route.—J. H. McIntyre, Earlinton, Ky., is interested.

Knightstown, Ind.—Promoters are considering construction of traction line from this city to Shirley, a distance of 23 miles.

Vincennes, Ind.—The Vincennes Western Electric Railroad has been incorporated to build an electric railway, 14 miles in length, to connect Vincennes and Bridgeport, Ill.—Robert V. Stinson, City President.

Kansas City, Kan.—The Kansas City, Lawrence & Topeka Electric Railway Co. has been incorporated to build an electric or steam railway between Topeka and this city; distance 67 miles; capital stock, \$1,000,000.—R. W. Hocker, F. P. Dickson, J. A. Stewart, F. B. Glover, Kansas City, Mo.; D. B. Johnson and R. O. Larson, Incorporators.

Olathe, Kan.—Messrs. F. P. Dickson, J. O. Stewart, R. N. Hocker, W. H. Stalnaker of Kansas City, ex-county Treasurer, and D. B. Johnson of Shawnee Township, have appeared before the Board of County Commissioners in the interest of the proposed electric line that is being talked of from Kansas City to Olathe; road is now in operation between Shawnee and the Missouri town, and the prospects just now are very favorable to extending it on down to this city.

International Falls, Minn.—City has granted a franchise to the American Suburbs Co. to construct an interurban street car line to Ranier.

Yazoo City, Miss.—The Yazoo City Street Railway is considering the building of one or two extensions.

Plattsburgh, Neb.—The Plattsburgh & Southwestern Interurban Railway Co. has been incorporated with a capital stock of \$100,000; company will construct an electric interurban railway from Plattsburgh through the towns of Mynard, Manly and Murdock; surveys are to be started soon.—Judge H. D. Travis, J. P. Falter and R. B. Windham, Incorporators.

Jersey City, N. J.—Merchants are discussing the proposition of a trolley line to connect Grand st. with the business section of Newark ave., so that persons from Greenville and Bergen may reach the business section of the city without transferring or walking.

Brooklyn, N. Y.—Another trolley line for the Flatlands section is contemplated by the Brooklyn Rapid Transit Company; proposed line will run through Ave. J. It will start from Flatbush ave. and run to Utica ave., a distance of about a mile; officials of the Brooklyn Rapid Transit Co. have not yet made up their minds whether a 2-track road would pay, and they may decide to run a shuttle service until such time as the increase in traffic makes a 2-track road necessary.

Long Island City, N. Y.—The Public Service Commission has approved the franchise of the New York and North Shore Traction Co., the Long Island Electric Railway Co., successor, for an extension of its street surface railroad from the New York city line at Little Neck to and into Fushing, and from Chestnut st., Flushing, to White-stone, L. I.; company has filed with the Secretary of State the proper certificate of extension, and has received the consent of the local authorities for the construction of an extension of its line from Roslyn along Broadway to the easterly boundary line of Greater New York City; company has also received from the Board of Estimate and Apportionment the necessary consents of the local authorities for the extension of its line in the Borough of Queens from the city line at Little Neck through Bayside to Main st., Flushing, and also for a branch line extending from a point in Chestnut st.

opposite Central ave. to Whitestone; cost of new extension is \$1,250,000.—W. O. Wood, General Manager, 7 Borden ave., Long Island City.

New York, N. Y.—The Rockland Trolley Co., 165 Broadway, New York City, has adopted plans for a \$2,500,000 line; officers and directors were elected to carry out the work as follows: B. A. Hegeman, Jr., President; W. O. Jacquette, Vice-president; A. C. Miller, Second Vice-president and General Manager; Stafford S. Delano, Treasurer; W. H. Coverdale, Chief Engineer, and Charles J. Hardy, Secretary and Counsel. Directors include H. A. Taylor, Edwin S. Bayer, F. V. Smith, H. H. Hewitt, K. B. Smith, Francis Dickson, M. S. Paine, Henry O'Neill and Theodore Hofstatter; line will begin at Tappan and will go north as far as Stony Point, touching Suffern on the west and Nyack on the east; it will open up all of Rockland County, covering a roadbed 30 miles long.

Troy, N. Y.—The Aldermen have passed Alderman Anderson's resolution, directing the City Clerk to advertise a public hearing to be held Wednesday evening, July 14, relative to the sale of the franchise for a railway line from Twentieth st. north on 6th ave. to the city line, thence westwardly to a point on the River road or upper 2d ave., thence southerly along the River road to the tracks of the United Traction Co.

Charlotte, N. C.—The Charlotte Consolidated Construction Co. has secured rights-of-way and will make some changes in its line.

Salisbury, N. C.—City has granted a franchise to N. B. McCanness, J. K. Link, C. L. Welch and J. B. Norwood for the construction of an electric railway from this city to Faith via Granite Quarry.

Sherwood, N. D.—The Sherwood Electric Co. has decided to build a 10-mile branch west from Barber.

Cleveland, O.—The Cleveland, Barberton, Coshocton & Zanesville Railway has authorized an issue of \$6,000,000 in bonds, the proceeds to be used in building an electric railway from Cleveland to Zanesville, via Elyria, Barberton, Orrville, Millersburg and Coshocton.—J. J. Breiting, President.

Dayton, O.—The Dayton & Troy Electric Railway will build an extension in the southern part of Piqua; new line will cost about \$25,000.—C. M. Paxton, General Manager.

Nelsonville, O.—The Hocking-Sunday Creek Traction Co. has been incorporated to build an electric railway from Nelsonville to Athens with branches to Chauncey and from Sugar Creek to the Sugar Creek coal mines; capital stock, \$300,000. E. B. Young, J. Gaston Coe, M. A. King, Charles A. Vorhes, Warren N. Badger, H. H. Isler and Charles E. Poston, Incorporators.

Springfield, O.—A number of residents of Randolph Township are projecting a traction line to connect several towns north of this city; plans include the building of a line connecting the Dayton, Covington & Piqua and the Dayton & Northern, involving an expenditure of about \$150,000.

Youngstown, O.—Additional improvements are to be made on the Youngstown Park and Falls electric line, which will make a double track from Myrtle ave. and Market st. to Idora Park; piece of single track, from Warren ave. and Hillman st. to Glenaven and Hillman sts. will be double tracked soon.

Chickasha, Okla.—The Commercial Club of this city has authorized the payment of a bonus of \$25,000 and ten miles right-of-way for a connection of the proposed interurban electric line to be run from Ardmore to Lawton; Ardmore has already given \$50,000 for the proposition, and Duncan has subscribed \$25,000 for the line to come to that city.

Oklahoma City, Okla.—The Oklahoma Railway Co. will build an extension to Packington.—J. W. Shartel, General Manager.

Portland, Ore.—The Oakland & Tidewater Railway has been incorporated to build an electric railway from Oakland to Empire; capital stock, \$1,000,000. C. A. Pen-gra, H. D. May and W. W. Purdy, Portland, Incorporators.

Portland, Ore.—The Portland Railway, Light and Power Co. is planning the following improvements: Sheds, foundry and repair shops, \$500,000; new plant above Cazedero, \$2,500,000; extensions under recent franchise, \$2,000,000; car barns at Sellwood, \$85,000; club house, \$10,000; electric building, \$250,000; steam station, \$500,000.—A. H. Richmond, Chief Engineer.

Butler, Pa.—Notice of application for a charter for the Rochester & Mars Street Railway has been given by five Pittsburg men—J. H. Barrett, President and Chief Engineer; W. H. Boggs, Treasurer, with the Guardian Trust Co.; D. R. Torrence, Secretary, former City Treasurer; David Hunter, Jr., State Representative, and J. G. Downie, manufacturer and founder of the town of Downieville, Butler County; final survey has been completed, rights of way

and franchises have been obtained, and construction contracts will be let soon after the charter is issued in July.

Carlisle, Pa.—The Cumberland Valley Ry. Co., which has been busy securing franchises for a trolley line from Balfour to Newville, has purchased the line of the Carlisle and Mt. Holly Co., including the Mt. Holly Light, Heat and Power Co., and the control of Holly Park; the Cumberland Railway Co. has also organized by electing the following officers: President, John Graham; Secretary, J. Kirk Bosler; Treasurer, Walter Stuart; Superintendent and General Manager, W. F. Pascoe; line from Holly to Newville will cover almost 20 miles; an extension from Newville to Shippensburg, to connect with a line now being built from Chambersburg, is also contemplated and is considered in the plans of financing the line.

Duquesne, Pa.—Work will soon begin on a three-mile trolley road from Duquesne to Dravosburg; projectors are business men of Duquesne and other western Pennsylvania towns and the company is known as the Duquesne & Dravosburg Street Railway Co.; route will cut the distance in half. The officers are: Fred W. Scott, of Duquesne, President; J. C. Cato, of Aliquippa, Vice-president; T. F. Van Kirk, of Coraopolis, Secretary, and A. J. Krill, of Aliquippa, Treasurer. The other directors are William J. Leader, J. W. Speering and M. G. Conlin, of Duquesne; A. C. Purdy, of Coraopolis, and Charles McGinley, of Indiana.

Freedom, Pa.—Barker, Barker & Owens, Beaver, have completed the survey for E. B. Shilton of a proposed 8-mile street railway, from Freedom to Crider's Corners, at the intersection of the Pittsburg, Harmony, Butler & New Castle Railway; part of the right of way has already been secured.

Irwin, Pa.—The Irwin & Herminie Traction Co. will build an electric railway from Herminie to this city; distance four miles.—C. H. Bolton, I. H. Taylor, C. A. Thompson, Thomas P. Herron and John L. Pearce are interested.

New Florence, Pa.—W. E. Hildebrand is promoting a project to connect Johnstown, Seward, New Florence, Ligonier, Latrobe and Greensburg by trolley.

Bukwana, S. D.—The South Dakota Interurban Railway Co. has filed articles of incorporation with a capital of \$1,000,000; company will construct a line of railway from Sioux City to Bijou Hills in Brule County; proposed line will be 160 miles in length.

Chattanooga, Tenn.—Chattanooga Electric Co. is planning extensions to its roadbed and electrical equipment.—M. S. Hopkins, Vice-president.

Knoxville, Tenn.—Council has passed an ordinance granting Chas. Dawes a right-of-way over the following streets, to wit: Beginning at the corporation line on Dale ave. near the Knoxville Woolen Mills and extending east to Asylum ave. and on Asylum ave. to the west approach of the Asylum ave. viaduct for the purpose of laying tracks and conducting an electric road between Knoxville and Bearden.

Memphis, Tenn.—Officials of the Memphis Street Railway Co. are considering the advisability of extending either the Central ave. or Peabody ave. line to Cooper st., where the cars would run out to Montgomery Park and Buntyn, thus giving two lines into that rapidly growing territory.

Fort Worth, Tex.—The Northern Texas Traction Co. is making preparations to build an extension of about one mile to Riverside; a franchise has been granted to extend the Evans ave. line about one mile.—H. T. Edgar, General Manager.

Fort Worth, Tex.—The City Commissioners have granted the Northern Texas Traction Co. a franchise for a street car line which is to be built and put in operation within the coming nine months; new line is expected to provide service for residents of that section of the city lying east of the Evans ave. car line and south of the Glenwood and College lines.

San Antonio, Tex.—The ordinance granting permission to the San Antonio Traction Co. to construct a new street car line into the Second Ward has been passed; new line will begin at the intersection of Houston and Pecos sts., run south along Pecos to Laredo, to Parral and thence to Apache and on to its terminal.

Waco, Tex.—John W. Maxcy, of Houston, Tex., has been selected as Engineer to make a survey of the projected interurban line from this city to Temple.

Bellingham, Wash.—The Whatcom County Railway and Light Co. has decided to expend about \$100,000 this summer in laying heavier steel on the local system and making street improvements.

Ellensburg, Wash.—City has been petitioned by Frank S. Farquhar, Tacoma, for a franchise for an electric railway.

Ashland, Wis.—The Ashland Light, Power & Street Railway Co. has been granted a franchise to build a 3-mile extension.—Aug. Anderson, Chief Engineer, Ashland.

BIDS RECEIVED AND CONTRACTS AWARDED

Washington, D. C.—The Baltimore & Washington Transit Co. has let contract to Allen & Kefauver, Equitable Bldg., Baltimore, Md., for about two miles of single track line, with sidings from Takoma Park to 14th st. and Colorado ave. extended. The District Commissioners have authorized this extension. The officers and Board of Directors of the new road are as follows: President, Henry W. Williams, Baltimore; Vice-president and General Manager, William A. Mellen, Washington; Secretary, George J. Schadel, Baltimore; Treas., Norman M. Little, Washington; Syndicate Manager, Charles Selden, Jr. Board of Directors: Henry W. Williams, William A. Mellen, George J. Schadel, Norman M. Little, Howard Fisk, W. M. Terrell and Dr. E. H. Leffler, Millersburg, Pa. Headquarters of company are at 713 14th st., N. W., Washington, D. C.

Waynesburg, Pa.—The Waynesburg & Monongahela Electric Railway Co. has awarded to John R. Bennett, Fairmount, W. Va., the contract for grading 34 miles of its proposed line, from Waynesburg to Millsboro, with a branch to Carmichaels and Rices Landing.

BRIDGES

Gadsden, Ala.—City is considering erection of concrete bridge across Town Creek.

Phoenix, Ariz.—Citizens have voted to construct a bridge over Salt River at Center st.—O. A. Turney, City Engineer.

Pasadena, Cal.—Pasadena, Henry E. Huntington and the County Highway Commission may co-operate at some future date, if the plans of C. D. Daggett and others are carried out, to build an immense bridge across the Arroyo Seco, on the level from brink to brink, from the end of Colorado st. to the heights across the chasm.

Joliet, Ill.—Fifteen hundred dollars has been appropriated by the Board of Supervisors for the erection of a bridge across Fork Creek, on the town line between Green Garden and Manhattan townships.

Lincoln, Ill.—The Commissioners of Highways of the Town of Orvil are urging that a bridge and approaches thereto be built over Sugar Creek where the same is crossed by the highway leading from Hartsburg to Lincoln.

Lincoln, Ill.—The Commissioners of Highways of the Town of Chester are urging that a bridge and approaches be built over Deer Creek where the same is crossed by the highway leading from Lincoln to French's Chapel; total cost, \$3,750.

Angola, Ind.—Bids will be received by the Board of Commissioners of Steuben County about August 2 for constructing two concrete arches.—J. A. Shaughnessy, County Auditor.

Goshen, Ind.—Elkhart County has decided to construct a 90-ft. single span steel bridge in York Township.—H. A. Keath, County Surveyor.

Indianapolis, Ind.—Joseph L. Hogue, Street Commissioner, is arranging to build a bridge across the canal at 27th st.; it will have concrete abutments, while the iron work will be taken from the old bridge across Pleasant Run at Emerson ave., which is being removed to make way for a concrete structure.

Marion, Ind.—The Commissioners of Grant County are receiving bids for the construction of two new bridges, three concrete arches, a concrete abutment and the repair of several old bridges.

South Bend, Ind.—Plans for eight new concrete bridges to be built in different parts of St. Joseph County have been adopted by the County Commissioners; Auditor has been instructed to advertise for bids at once; Madison Township will get four of the new bridges and Liberty Township one; two will be built in German and one in Warren Township; W. S. Moore presented plans for the bridges in Madison and Lincoln townships, and A. J. Hammond sketches for the structures for German and Warren townships.

Mason City, Ia.—Plans have been prepared for the construction of a concrete arch bridge at Main st.; cost, \$20,000.

Treynor, Ia.—The Iowa & Omaha Short Line Railway Co. will soon let contracts for bridges and culverts.

Fort Leavenworth, Kan.—The military authorities, acting on the advice of an expert engineer, have condemned the trestle bridge across Two-mile Creek on the reservation, used by the electric railway, and it will be replaced as soon as possible by a fine steel structure.

Kansas City, Kan.—Preliminary plans are being prepared by Engineer Milton Lindsay for a steel and concrete bridge, 734 ft. long, at Kansas ave. and Kaw River, for Wyandotte County and the Metropolitan Street Railway Co., 15th st. and Grand ave., Kan-

sas City, Mo.—F. M. Holcomb, County Clerk.

Topeka, Kan.—The estimates of the City Engineer on the Melan Bridge have been approved by the Council, and orders have been given for the drafting of an ordinance which will call a special election and then the people will have their say.

Earlington, Ky.—Representatives of foreign capital have decided on extension of the Madisonville, Hartford and Earlington road; it is proposed to connect Kentucky with Indiana by a bridge across the Ohio at Shawneetown, Ill., from Morgantown, Ky.; from Shawneetown a traction will be extended to Evansville, Ind.—J. H. McIntyre, city, is interested.

Ludlow, Mass.—Town has voted \$3,200 for the construction of a new abutment to the Indian Orchard bridge.

Jonesville, Mich.—City has decided to construct a bridge over the St. Joseph River.

Meridian, Miss.—Lauderdale County will construct two steel bridges.

Hodge, Mo.—Bids will be received for construction of a steel and concrete bridge; cost \$1,500.—J. A. Wilson, County Engineer.

Kansas City, Mo.—George Townsend is having plans made for a \$1,500,000 bridge.

Kansas City, Mo.—The C. B. & Q. Railroad is preparing preliminary plans for a four-track steel bridge.—C. H. Cartledge, Engineer, 209 Adams st., Chicago.

Vicksburg, Miss.—The Alabama & Vicksburg Railway and the city and street railway are considering construction of bridge over Cherry st. railway crossing; cost \$40,000 to \$50,000.

Berlin, N. H.—A foot bridge is to be erected across the Androscoggin River, above Berlin Mills and opposite the foot of 7th st.

Plainfield, N. J.—The County Engineer of Somerset County has been instructed to prepare plans for a bridge to be constructed over Bound Brook and the New Market stream at New Market.

Brooklyn, N. Y.—Plans are being completed by Architects Helmle & Huberty, 190 Montague st., for a bridge at 1st ave. and Shore road, to cost \$75,000.—M. J. Kennedy, Commissioner, Department of Parks, New York City.

Lockport, N. Y.—Council has decided to issue \$1,500 for the 18-mile Creek new bridge.

Franklinton, N. C.—Bids will be received July 7 by J. H. Cook, city, for erection of bridge over Tar River.

Grand Forks, N. D.—The County Commissioners Road and Bridge Committee has decided to order five new bridges; Brenna Township is to have two new bridges, Bentrui one, Mekinock one and Ferry one.

Bucyrus, O.—Petition has been filed with the Commissioners by more than the requisite number of taxpayers for the building of the Lane st. bridge.

Cincinnati, O.—In submitting to the Board of Public Service an approximate estimate of the cost of improving Young st. between Bodmann and Southern aves., by making a fill asked for by Council, City Engineer Sundmaker recommended that the idea of the improvement be abandoned, and that a concrete bridge be constructed instead, at a cost of \$39,000; estimated cost of the fill is \$28,785.50.

Hamilton, O.—City Civil Engineer L. A. Dillon has submitted plans, sections, specifications and estimates of cost for the proposed viaduct construction on G st. over the C. H. & I. railroad; total cost, \$13,900.

Lima, O.—Council is considering a resolution providing for a bridge across the Ottawa River at Collett st. and to straighten the bed of the creek at that point along the Spencerville road; the Board of Public Service will prepare plans and specifications for the same.

Sandusky, O.—Erie County is considering construction of a lift bascule bridge over Huron River, with dirt approaches; engineer not yet selected.—Charles Kubach, County Auditor.

Poteau, Okla.—Le Flore county is considering a \$155,000 bond issue for construction of 26 steel bridges, costing from \$2,400 to \$13,000.—S. J. Folsom, County Clerk.

Vinita, Okla.—Craig County will vote August 16 on \$70,000 bonds for construction of 34 steel bridges, costing from \$1,260 to \$4,500.—George Ashby, Vinita, County Engineer.

Ebensburg, Pa.—The Commissioners have decided to build five bridges—one at Wildwood, one in Carroll Township, one at Barnesboro, one in Bar Township, and another at Griffith's Mill; also to expend not more than \$10,000 as the County's share for building the overhead bridge at South Fork, in which the cost is to be borne by the Pennsylvania Railroad, the Southern Cambria Railway Co., the County and the borough of South Fork.

West Chester, Pa.—Plans have been prepared for the construction of two bridges, one in Thornbury and the other in West Nottingham.

Wilkes-Barre, Pa.—Viewers appointed by the court to inquire into the necessity of having the County construct a bridge across the Susquehanna River at Wapwallopen have filed their report, in which they urge the erection of a bridge not to cost more than \$75,000.

Nashville, Tenn.—Seasongood, Meyer & Co., of Cincinnati, have been awarded the \$250,000 supplemental bonds issued to complete the bridges across the Cumberland.

Cleburne, Tex.—Bosque County will vote on \$10,000 bonds for the building of steel bridge over the Brazos River.

Dallas, Tex.—Resolutions ordering an election to be held August 3 to determine whether there shall be issued bonds in the sum of \$600,000 for the construction of a viaduct over the Trinity River at Zangs Boulevard, bonds in the sum of \$175,000 for the purpose of remodeling and raising four bridges over the Trinity River so as to comply with requirements of the Government, and the sum of \$100,000 for roads and bridges improvement have been adopted by the Commissioners' Court.

Galveston, Tex.—Plans are being prepared for a 11,000-ft. concrete bridge to be constructed over Galveston Bay, at a cost of \$2,000,000.—B. T. Marsh, Des Moines, Ia., is interested.

Houston, Tex.—The Houston Belt & Terminal Co. is considering construction of bridge across ship channel, connecting Second and Fifth wards.—F. G. Pettibone, Galveston, President.

Petersburg, Va.—The Finance Committee of Council has decided to recommend to the Council the adoption of an ordinance giving to W. G. Davis and others, of Norfolk, authority to construct a viaduct across Lieutenant Ren, at the extreme end of South Sycamore st.; object of this viaduct is to develop what is known as the Wilcox farm property; cost of the viaduct will be \$40,000.

Seattle, Wash.—The Railroad Ave. Bridge and Viaduct Club proposes the expenditure of more than \$1,000,000 in the improvement of West Railroad ave. with a double-deck trestle and two 1,000-ft. steel bridges.

Tacoma, Wash.—Definite action toward planning and making possible the erection of a huge viaduct across the business district to the city water way and the tide-lands, as a solution of the traffic problem on the latter, was taken by Tacomans when Mayor John W. Linck and Attorney Herbert S. Griggs were empowered to appoint a committee of nine men, having full authority to make all necessary preliminary arrangements.

Merrill, Wis.—The Park Board proposes to build or to let contract for erecting a 10 or 12-ft. passenger bridge for a complete span about 116 ft. long, abutments to be constructed of stone and cement, the same to be completed this season; not yet decided as to plans and specifications.—Jul. Thielman, Mayor.

BIDS RECEIVED AND CONTRACTS AWARDED

Chicago, Ill.—The contract for reconstructing the River st. approach to the Rush st. bridge, bids opened June 17, has been awarded to the National Contracting Co., Security Building, Chicago, for \$8,925.

Evansville, Ind.—The County Commissioners awarded contracts for two bridges, a concrete wall, a new bridge floor, and a bridge walk; contract for the floor on Stringtown bridge was received by George O. Wahl, at \$1,137; other bids were William Coulson, \$1,179; Jacob Detroy, \$1,339. For the Martin bridge, Bennett Whitehead was the successful bidder, at \$1,900; others were Grammer & Smith, \$2,299; Rauschenbach, \$2,360; H. W. Eigenmann, \$2,300. Eigenmann was the successful bidder for the Schweresch bridge, at \$600; Rauschenbach, \$823; Grammer & Smith, \$782; Bennett Whitehead, \$640.

Kendallville, Ind.—The County Commissioners have awarded contract for the construction of a 2-span bridge in Wayne Township to W. H. Hills & Co.

Kokomo, Ind.—The County Commissioners have awarded contract for constructing a single span, reinforced concrete arch bridge at McCann st. to the Hackedorn Construction Co., of Indianapolis, at \$10,253; the span is 110 ft. and the reinforcement is corrugated bars.

Monticello, Ia.—The Board of Supervisors has decided to erect a bridge over the run on Sycamore st. in Monticello; it will be of cement and was let to the Hanssens for \$600; a new bridge will also be erected near the Terwilliger place; the abutments will be of cement and the superstructure of steel; it was let for about \$1,500 to Contractor Wilson; a new bridge will also be erected at nearly the same cost over the Whitewater in the extreme eastern part of the county.

Holyoke, Mass.—The Board of Public Works, June 18, awarded contract for erecting the new bridge over the first level canal in Sargeant st. to Michael Fitzgerald,

ald, of Hoosic Falls, N. Y., the lowest bidder, at \$6,700. The other bidders were as follows: United Construction Co., of Albany, \$9,732; Rivers & Young, of Holyoke, \$10,142; Canton Bridge Co., of Albany, \$5,735; Walsh Holyoke Steam Boiler Works, \$7,885. Because of failure to comply with the requirements of the call, the bid of Curtis & Dean, of Hartford, was rejected. The new bridge will be of reinforced concrete, 80 ft. long and 60 ft. wide, the full width of the street. Same contractor was awarded contract for repairing the Dwight st. foot bridge over the Boston & Maine R. R.

Mexico, Mo.—The Pan-American Bridge Co., New Castle, Ind., has been awarded contract, at \$3,540, for constructing seven steel bridges for the county; work includes two 45-ft. spans, two 40-ft. spans, one 36-ft. span, one 30-ft. span and one 24-ft. span on steel legs, with 2½-in. white oak floor and backing.

Missoula, Mont.—Council has awarded a contract to the Burrell Bridge Co. for \$1,910 to keep the temporary foot bridge open.

Hackensack, N. J.—F. R. Long Co., city, has received the contract, at \$69,700, for constructing a steel bridge over Berry's Creek, near the Hudson County line, on the Paterson plank road.

Las Vegas, N. M.—The contract for the erection of an arch concrete bridge, with two 68-ft. spans, a 49-ft. roadway and an 8-ft. sidewalk, across the Gallinas River between the town and city of Las Vegas, has been awarded by the Board of County Commissioners of San Miguel County to the Missouri Valley Bridge & Iron Co., of Leavenworth, Kan.; the contract price is \$32,000. The work is to begin within 30 days and the structure is to be completed by Nov. 30. The same company built the Gallinas River bridge, which is to be displaced by the new one, over 20 years ago; also the new bridge spanning Arroyo Pecos, immediately east of the city.

Brooklyn, N. Y.—Bids were received, June 17, by J. W. Stevenson, Commissioner of Bridges, New York, for construction of sidewalks, walls, railings, etc., in connection with the trolley railway approaches to Brooklyn Bridge, Borough of Brooklyn: Cooper & Evans Co., 220 Broadway, New York, \$6,818; Crescent Construction Co., \$8,359; Snare & Triest Co., \$6,980; Haggerty Contracting Co., \$7,198; Charles Meade & Co., \$8,210; N. E. Construction Co., \$8,954; Lafferty & Weir, \$8,398.

Cleveland, O.—The Board of Public Service has awarded contract to Williams Bros. & Morse Co., Glenville Center Bldg., for constructing a stone and concrete arch in Brookside Park; cost \$15,000.

Norwalk, O.—The County Commissioners opened bids for superstructures for the Lawrence bridge over the Huron River east of Steuben, and the Hoyt bridge on the Fairfield road in Bronson township, as well as for bids for repairs of the substructure, and the contract for both bridges was awarded to the Modern Construction Co.; the contract for work on the substructures was awarded to the Buckeye Construction Co., of this city. The bids were as follows: Modern Construction Co., Fremont, Lawrence bridge, \$1,047; Hoyt bridge, \$649; Brooksville Bridge Co., Brooksville, O., Lawrence, \$1,407; Hoyt, \$681; Delaware Bridge and Iron Co., Delaware, O., Lawrence, \$1,409; Hoyt, \$679; the Winkoop-McGromley Co., Toledo, Lawrence, \$1,417; Hoyt, \$699; Home Engineering and Contracting Co., Canton, Lawrence, \$1,399; Hoyt, \$679.

Altoona, Pa.—The Board of Public Works awarded the contract for the furnishing of lumber for a new floor for the 7th st. bridge to the Altoona Concrete Construction and Supply Co. The prices are: For furnishing oak planks, \$26 per 1,000 ft.; for pine planks, \$21 per 1,000 ft.

Philadelphia, Pa.—The contract for the completion of the Passyunk ave. bridge over the Schuylkill River was awarded by Public Works Director Stearns to the Strobel Steel Construction Co., of Chicago, which submitted the low bid of \$313,000 and agreed to complete the work in twelve months. The Strobel contract is for all the steel work on the bridge. The concrete piers have been constructed at a cost of \$250,000. There is \$350,000 remaining of an appropriation for the completion of the bridge. The bridge will be 1310 ft. in length, and 56 ft. wide, with a driveway of 38 ft., and two sidewalks each of 9 ft. in width. The spans will be of the double leaf bascule type, opening upward.

Wilkes-Barre, Pa.—The York Bridge Co. has been awarded the contract for building a new county steel bridge across Wapwallopen Creek, in Wright Township; their proposal of \$1,675 was the lowest of several submitted.

Beaver Dam, Wis.—The Wisconsin Bridge & Iron Works, Milwaukee, Wis., has been awarded contract for the construction of an iron bridge, with concrete floors and abutments.

STREET CLEANING AND REFUSE DISPOSAL

Chico, Cal.—H. G. Adams, of San Francisco, who has been in communication with members of the Board of City Trustees in regard to the establishment of a garbage plant, has been reported by Mayor Robble as being willing to install a plant if the city will grant a franchise and a bonus.

Atlanta, Ga.—Council is considering two resolutions introduced in regard to the disposition of the city's garbage; one, by Councilman Amorous, called for the Board of Health to secure options on sites for two crematories and stables and estimates on the cost of two new crematories; other, by Alderman Pittman, asked for a conference with the railroad, and the purchase of two tracts of land outside the city limits, so that the garbage can be hauled from the city; both papers were referred to the Board of Health.

Lawrence, Mass.—As empowered by the City, Chairman Bossler and Member R. Brackett, of the Board of Health, have left for Brooklyn, N. Y., via Fall River, to inspect the incinerator used there. They were accompanied by Alderman Matthew Burns, who is going at his own expense. The party, without doubt, will recommend to the City Council the purchase of an incinerator similar to that in Brooklyn, to destroy the garbage.

Lima, O.—Council is considering a resolution authorizing the Board of Public Service to advertise for bids for the better cleaning of streets and alleys for a period of three years.

Provo, Utah.—Fire Chief Armistead has asked for another sprinkler, as the three sprinklers were not enough to give good service; he also suggested that a pipe line be put in from the East Union Canal to the cemetery in order to facilitate the obtaining of water and other suggestions relative to sprinkling were made.

BIDS RECEIVED AND CONTRACTS AWARDED

Ludlow, Mass.—The Village Board opened bids for watering the streets of the village proper and Ashley N. Boucher, the Road Supervisor, who offered to do the work for \$80 a month, was given the contract. Clarence Fuller, his only opponent, submitted a bid of \$88 a month; the cart, which is to be furnished by the town, will be bought of the Chandler Eastman Co. of West Concord, N. H.

Franklin, Pa.—It was decided to give Hafer & Co. the contract to sweep the streets at \$1.10 a square of 500 ft., the fire teams to remove the piles of dirt.

Galveston, Tex.—Bids were opened from Henry Wilten and William F. Steinbach for doing the scavenger work and were referred to the city Health Department and Commissioner of Streets and Public Property for compilation and report.

Salt Lake City, Utah.—The bid of Black & Lefler of \$1,024 for the erection of the addition to the garbage station on the Salt Lake & Ogden railroad was referred to T. J. Armstrong of the Board to look into; the City Engineer's estimate was only about \$500 for this work.

Madison, Wis.—The Committee on City Property, W. J. Buegin, Chairman, reported that the lowest and best bid received for a sprinkling wagon was made by the Studebaker Mfg. Co. at \$323 f.o.b. Madison, for the wagon specified, and recommended that this bid be accepted. On motion of Alderman Mautz the report was adopted.—O. S. Norsman, City Clerk.

MISCELLANEOUS

Mountain View, Cal.—Town has selected a site at Castro and California sts. for proposed Town Hall and jail.

Redlands, Cal.—The City Trustees have started proceedings calling for a \$60,000 bond election, of which \$40,000 is for the purchase of a site and the erection of a City Hall, and \$20,000 for additional fire protection. Mayor Kingsbury is in favor of building the City Hall in the park, near the Public Library.

San Francisco, Cal.—The Ross Municipal Improvement bonds, \$60,000, have been sold to Wakefield, Garthwaite & Co., of San Francisco, for \$62,245.

Indianapolis, Ind.—Council will consider an ordinance appropriating \$20,000 for the establishment of a public comfort station at Kentucky ave. and Illinois st.

Mishawaka, Ind.—The Public Improvement Committee will purchase a drinking fountain and place it in Battell Park.

Muncie, Ind.—The Board of Park Commissioners have drawn up an ordinance for passage by the Council asking the latter

body to appropriate \$21,000 for the improvement of McCulloch Park.

Wameeney, Kan.—Citizens will soon vote on \$20,000 bonds for a new City Hall and an electric light plant.

Portland, Me.—Council has voted to authorize the sale of the Portland & Ogdensburg railroad stock owned by the city, a controlling interest in the railroad, at any price above \$47.50 a share; if sale is made, proposed City Hall will be built.

Baltimore, Md.—Striking out of the Union Station ordinance the section that specified that the ordinance was not a grant of a franchise to the Pennsylvania Railroad over the tracks it will construct, the Joint Council Committee on Railways submitted its report to the Second Branch, leaving that body to debate the franchise proposition. In reporting the ordinance the committee did so with few amendments, those adopted effecting only slight changes in the ordinance as originally introduced; amendments recommended are that instead of the bridge carrying Charles st. over the tracks being paved with sheet asphalt, with granolithic sidewalks, the bridge bed be paved on the sides with sheet asphalt and between the car tracks with Belgian blocks; this, it was said, was granted to the United Railways and Electric Co., which finds Belgian block paving more suitable.

Greenfield, Mass.—The Park Commissioners will purchase a strip of land to provide an entrance to Shattuck Park from Silver st.

Lawrence, Mass.—The Committee on the New Police Station will at once select an architect to draw plans for a station similar to the Malden one.

New Bedford, Mass.—The Council Committee on Buildings in the fire district has voted to recommend to Council that an appropriation of \$1,000 be made to be used for the purchase of a motor car for the use of Superintendent Gibbs of the Building Department.

Houston, Minn.—Citizens are considering an election on bonds for the erection of an opera house and Village Hall.

Atlantic City, N. J.—City is considering the purchase of an automobile patrol and ambulance.

Gloucester, N. J.—Council has repealed the ordinance under which the recent \$100,000 bond issue was authorized, and at once placed upon first reading an ordinance reducing the issue to \$75,000; bonds are for public improvements.

South Amboy, N. J.—Council made one step in the right direction when they passed a resolution ordering that power be granted the Street Committee to place on the corners the names of the streets and avenues.

Brooklyn, N. Y.—Sealed bids or estimates will be received June 30, 11 a. m., for furnishing and delivering one automobile and equipment to the Bureau of Sewers.—Bird S. Coler, Borough President.

Ilion, N. Y.—The Board of Trade is considering the establishment of a playground for the children.

Monticello, N. Y.—Sullivan County has awarded \$150,000 jail and court house bonds to Wadsworth and Wright.

New York, N. Y.—So as to insure action on the \$100,000,000 subway plans of the Bradley-Gaffney-Steers Co. by the Board of Estimate before it adjourns on July 2 for the summer vacation, the Public Service Commission has decided to transmit the plans to the Board and request authority to advertise for bids; permission will be asked to advertise for three alternative sets of bids, as follows: First—Bids for construction of the entire system with city money; second—bids for the equipment and operation of such sections of the system outlined by the Bradley-Gaffney offer as have been built or may be built with city money, this referring to the Manhattan section of the bridge loop and the 4th ave. subway, if it is built, and third—construction, operation and equipment of the Broadway-Lexington ave. route, the Canal st. spur, the Broadway-Lafayette bridge loop in Brooklyn and the two extensions of the Broadway-Lexington ave. in the Bronx by private capital.

New York, N. Y.—The Board of Aldermen has voted \$155,000 for new playgrounds and recreation centers to be opened during the summer.

Niagara Falls, N. Y.—The Park and Playgrounds Committee has decided to ask the Board of Estimate and Apportionment to provide \$1,500 in the budget to be compiled next year for the use of the committee in equipping at least three playgrounds.

North Tonawanda, N. Y.—Having secured the property at Main, Webster and Country sts., the Department of Public Works has torn down the billboards and filled in the land so as to beautify the spot; city expects to make a small park out of the plot.

Rochester, N. Y.—The Park Commission will gain control of five pieces of land as the result of Council action; in addition, the Council decided to acquire several more

pieces of land to be added to the park system; this action was taken as the outcome of a communication from Mayor Edgerton, calling attention to the fact that the land should be turned over to the Commission, and to the action of the Council, based on a committee report, recommending the acquisition of two other pieces of land.

Utica, N. Y.—The Utica Home Telephone Co. has been given permission to construct a subway with manholes as follows: From the southeast corner of Francis and Tracy sts., through the lawn on the east side of Francis st., to the northeast corner of Francis and Oswego sts.; thence across Francis st. and in and along the lawn on the northerly side of Oswego st. to the northeast corner of Oswego st. and Sunset ave.; thence across Oswego st. and along the easterly side of Sunset ave., underneath the sidewalk thereon, to the northeast corner of Sunset ave. and Waverly place; thence across Waverly place to the southeast corner of Sunset ave. and Waverly place; thence across Sunset ave. and through the lawn on the westerly side of Sunset ave. to Watson place; thence across Watson place and through the lawn on the westerly side of Sunset avenue, to a point about 150 ft. from the southwest corner of Watson place and Sunset ave.; adopted. This does not amend or affect the franchise the company already has.

Barberton, O.—City has awarded \$33,450 improvement bonds to W. R. Todd & Co.

Columbus, O.—The Franklin Park Improvement Association, which has just been formed, contemplates a number of improvements for Franklin Park and vicinity; Association is now considering the alteration of the old boathouse and making it into a gymnasium for the members of the community; it is also planned to get bridge paths for the riding clubs and many other improvements, such as the redressing of the roads, planting of more trees, etc.

Dayton, O.—To install a system of "mitigation" to allay the electrolysis which is eating water and gas pipes in the city, is the plan on foot by the Service Board; just what such an improvement would cost has not been estimated, but Special Engineer Brownell gives it as his opinion that this is the only method that could be pursued to stop the trouble.

Hamilton, O.—Council is considering an election on \$400,000 park bonds.

Toledo, O.—The Ashleys are desirous of presenting to the city a fountain to be erected at Jefferson and Michigan sts.

Muskogee, Okla.—The Park Board has announced that they have secured a new park for the use of the city, which will be quite an innovation, as it will afford a large playground and an artificial lake for boating.

Tulsa, Okla.—Citizens will vote on \$100,000 bonds for City Hall.

Chambersburg, Pa.—Council is discussing the installation of street signs.

Hazleton, Pa.—Mayor Smith has signed a resolution authorizing the Mayor, City Solicitor and City Engineer to confer with the proper officials of the Lehigh Valley Coal Co. for the purpose of securing a plot on the Jeunesville Heights for use as a Public Park.

Philadelphia, Pa.—Council has passed a bill authorizing the creation of a loan for \$5,739,700, to be used for municipal purposes as follows: Grading, \$100,000; Queen lane filtration plant to increase the water supply by 70,000,000 gal. daily, \$725,000; branch sewers, \$250,000; high-pressure fire system in the Kensington district, \$700,000; completion of City Hall and improvement of the police and fire alarm system, \$275,000; new police and fire stations, \$275,000; improvement of small parks, \$40,000; improvements to city hospitals, \$84,700; improvements to Fairmount and Hunting parks, \$190,000; Parkway, \$1,000,000; playgrounds, \$100,000; improvements to Delaware and Schuylkill river fronts, \$400,000; and to restore to general revenues, money paid out upon mandamuses for permanent improvements, \$1,500,000.

Pittsburg, Pa.—Director Walters will ask Councils to submit to the people the question of issuing \$100,000 in bonds for a public abattoir with a view of abolishing all the private slaughter houses, and that a similar ordinance would be presented before fall for a \$100,000 bond issue to establish a tuberculosis hospital.

Pittsburg, Pa.—An ordinance to expend \$10,000 for building an arch at the Ridge ave. entrance to Monument Park has been referred to the Public Safety Department for estimates.

Memphis, Tenn.—Council has passed ordinance authorizing a \$260,000 bond issue for the erection of a combined police and fire station.

Nashville, Tenn.—Another step towards securing a public park in South Nashville has been taken by citizens of that section of the city; committee of seven has been appointed to consider plans for the park and its location; committee organized immedi-

ately by the election of Gov. James D. Porter, Chairman, and it will begin work at once.

Beaumont, Tex.—P. A. Hesig and J. T. Booth have been appointed a committee to purchase uniforms for police and firemen.

Bryan, Tex.—Jones & Tabor, Houston, have prepared plans for erection of a City Hall and opera house.

Fort Worth, Tex.—Citizens of Glenwood and a committee of the City Commission have reached an agreement which will serve as a basis for the annexation of that suburb to Greater Fort Worth; agreement embodies as considerations for annexation: A school building to cost \$30,000; 6-in. water mains within a year; a fire station as soon as water mains are in place; sewerage within a reasonable length of time; street tax granted to the limit of the charter; present private water supplies to be undisturbed; street lights as soon as provision for city's plant can be made for it, and police protection, with preference given Glenwood residents for police officers there.

Hillsboro, Tex.—City has purchased a site and will erect a \$16,000 City Hall and fire station.

Hubbard City, Tex.—Mayor W. Q. Bowman, of this place, will issue a call requesting all citizens of Precinct No. 5 of this County to meet in this city for the purpose of discussing the advisability of calling an election to issue \$100,000 public improvement bonds for this justice precinct.

Texarkana, Tex.—The Attorney General has approved city of Texarkana bond issues as follows: Street improvements, \$3,000; fire station, \$2,500; school building, \$125,000; jail, \$5,500.

Salt Lake City, Utah.—The Improvement Committee will recommend the placing of sanitary drinking fountains and the doubling of lights in the business district before the Encampment of the Grand Army.

Norfolk, Va.—City is considering extension of sea wall along Mowbray Arch and the Hague; distance of 3,000 ft.; estimated cost \$36,000.

Montpelier, Vt.—No bids were received by the City Treasurer for \$120,000 3½ per

cent City Hall bonds, and they will be offered later at a higher rate of interest, probably 4 per cent.

Seattle, Wash.—Embodying recommendations for a channel broad enough and deep enough to be of great benefit to Seattle as a commercial water way and as an extension of the present harbor, the Engineering Commission created by the Duwamish River Improvement Club made its report to the Trustees of the club. A channel 150 ft. wide at the bottom with a depth of 16 ft. at extreme low tide and a right-of-way varying from 500 to 600 ft. to provide for future widening of the channel, are recommended; expense as estimated by the engineers is as follows: Cost of right-of-way, 200 acres, \$600,000; excavating, 5,300,000 cu. yds. at 15c., \$795,000; engineering and contingencies, \$155,000; total, \$1,550,000.

Grafton, W. Va.—Citizens have defeated proposition to issue \$75,000 improvement bonds.

BIDS RECEIVED AND CONTRACTS AWARDED

San Francisco, Cal.—The Board of Harbor Commissioners has awarded contract for covering with reinforced concrete standard and moving piles, for one year, as the Board may direct, to the Mercer-Fraser Co., at \$1.55 per lin. ft.

Washington, D. C.—Bids for the construction of a new police station in Anacostia, to be located at the corner of Nichols ave. and Chicago st., were opened as follows: James M. Dunn, \$16,365; Burgess & Persons, \$16,779; Allan T. Howison, \$17,580; J. H. Gibbons, \$18,269.

Evansville, Ind.—Bids for bridge work, a rail around Guardians' Home, and metallic furniture for County Treasurer's, Auditor's Recorder's offices, were opened by the County Commissioners; twelve companies submitted bids; Bennett Whitehead's bid of \$1,436.50 for walk around the Board of Children's Guardian Home was lowest, and Smith & Butterfield underbid all others for furnishing metal office furniture with their bid of \$750.75.

Boston, Mass.—Proposals for the surfacing of sections 2, 3 and 4 of the Boston embankment were opened, June 21, at the office of the Charles River Basin Commission, the following being received: Bruno & Pettitt, Boston, \$48,003.50; Holbrook, Cabot & Rollins Corporation, Boston, \$49,421.25; T. H. Gill & Co., Somerville, \$49,460.50; Ferdinand A. Wyman, Jr., Boston, \$50,721.85; James Driscoll & Son, Brookline, \$51,890; Colman Bros., Boston, \$5,167; H. M. McBride, Brighton, \$55,175.65; W. H. Ellis, Boston, \$61,092.40; James T. Barrett, Cambridge, \$62,996.

Albany, N. Y.—State Superintendent of Public Works F. C. Stevens, June 22, received bids on three additional barge canal contracts. On contract No. 30, for constructing 14 miles of the Barge Canal, from Little Falls to Sterling Creek, there were three bids received, the Acme Engineer & Constructing Co., of New York and Schenectady being lowest, at \$2,391,666. The engineer's estimate on this contract was \$2,200,000. On contract No. 36 for machinery for dams there was but one formal bid, Charles Longenecker & Co., of New York, at \$109,940, as against the engineer's estimate of \$44,600. On contract No. 42, for 9 miles of canal, from the Herkimer-Oneida County line through Utica to Oriskany, five bids were received. Shanley, Morrissey & Co., of New York, was low, being \$1,163,625, as against the engineer's estimate of \$1,318,014.

Brooklyn, N. Y.—Bids were received as follows by the Department of Parks, June 17, for the construction of a playground at Seigel, McKibbin and White sts., Borough of Brooklyn: O'Grady Bros., 69 North 8th st., Brooklyn, \$15,266; Cooper & Evans, \$16,372; J. H. Harnet, \$20,067; Atlanta Contracting Co., \$22,165; Kelly & Kelley, Inc., \$16,730; Robertson & Gerhart, \$21,050; F. J. Gallagher, \$20,086.

Fort William, Ont., Can.—The contract for the wharf on Mission River for the National Trans-Continental K. R. Co. has been awarded to Smith & Heney, Ottawa, Ont., at \$300,000.

TOO LATE FOR CLASSIFICATION

STREET IMPROVEMENTS

Gadsden, Ala.—Council has approved the plans and specifications for the proposed pavement of the business section of the city as drawn by the engineer and as soon as they can be printed will be ready for those who want to bid on the work; bids will be accepted until July 15, which date has been set for opening them; bids on four different kinds of paving are asked for and decision will not be made until their comparative cost is ascertained.

Dover, Del.—Bids will be received by W. H. Walker, President of the Street and Sewer Commission, July 12, 8 P.M., on repressed vit. shale blocks, or sheet asphalt and for bitulithic pavement laid under the patents of the Warren Bros. Co., brick sewers, curbing and gutters; \$200,000 is available.—G. L. Watson, Chief Engineer.

Cincinnati, O.—Bids will be received by the Board of Public Service, July 6, for furnishing the necessary labor and materials for the improvement of Browell ave., from Glenmore ave. to Hooker st., by grading, setting combined cement curb and gutter, macadamizing the roadway and constructing the necessary basins, drains and retaining walls.—J. J. Wenner, Clerk.

Lima, O.—Bids will be received July 8, noon, for improving Spring, Collett, Charles and Elm sts., Atlantic and Grand ave.—L. L. Crumrine, Secretary Board of Public Service.

Youngstown, O.—Proposals will be received by the Board of Public Service, July 8, noon, for furnishing the necessary labor and materials for the grading of Canton st. from South ave. to Bellevue ave.—W. H. McMillin, Clerk.

Brookville, Pa.—Bids will be received July 3, noon, for putting in cement sidewalk in front of the Court House.—W. A. Kelly, Clerk County Commissioners.

Pittsburg, Pa.—Proposals will be received July 1, noon, for furnishing 100,000 ft. board measure, more or less, of white oak road plank at various points along the Perrysville plank road.—R. J. Cunningham, County Controller.

Somerset, Pa.—Proposals for furnishing the necessary material, excepting paving blocks, red brick, sewer pipe and iron work, and performing the labor for grading, paving, and draining on parts of West Main st., West Patriot st., South Main Cross st. and East South st., will be received by Frank D. Baker, Borough Engineer, room 704 Johnstown Trust Co. bldg., Johnstown, Pa., or by M. J. Pritts, Secretary Borough Council, July 1, 9 P.M.

Wilmerding, Pa.—Borough is shortly to

issue bonds in the sum of \$52,000 to provide for the paving of Sprague st., Lidie, Brown, Florence and State sts., and Card and Middle aves., a half-dozen of the most prominent thoroughfares in the air-brake town, together with other improvements; estimated cost of the paving is \$22,000.

BIDS RECEIVED

Washington, D. C.—Bids for grading Upton st. northwest, M st. northeast, and T st. northeast were opened at the Municipal building by Daniel E. Garges, Chief Clerk of the Engineering Department, June 26; the bidders were:

Upton st.—George B. Mullin, 37¼c. a cu. yd.; George Hyman, 24¼c.; James M. Duncan, 60c.; Thomas R. Reilly & Co., 49c.; E. G. Gummel, 42c.; Harper & Voight, 28¼c., and Fisher & Crozzar, 38c. a cu. yd.

M st.—George Hyman, 35c. a cu. yd.; Burr Bros., 39c.; Stutler & Ready, 44c.; Thomas R. Reilly & Co., 36c.; Harper & Voight, 30¼c., and James W. Bean, 55c. a cu. yd.

T st.—George Hyman, 50c. a cu. yd.; Burr Bros., 74c.; Stutler & Ready, 47c.; Thomas R. Reilly, 41c.; E. G. Gummel, 42c., and James W. Bean, 89c. a cu. yd.

Richmond, Ky.—It has been decided by the Fiscal Court to have concrete sidewalks constructed all around and through the court house square, which is now all paved. Bids for this work were opened, and Moynahan & Tevis, a local firm, had the lowest and best bid and got the contract, at a total cost of \$3,118.

Nearest to them were Welsh & Higgins, of Nicholasville, their bids being something over \$3,300. Bids were received on the work from Lexington, Paris, Somerset, Latonia, Irvine and Richmond and ranged in price from \$3,118 to \$4,000. The work is to be started at once and will be completed not later than October 1, 1909.

Sandusky, O.—The Andrews Asphalt Paving Co. has been awarded a contract for constructing 29,000 sq. yd. Trinidad sheet asphalt pavement, 2¼ in. thick on 1:3:6 concrete base 6 in. thick for \$1.70 per sq. yd., including \$6,000 cu. yd. old macadam excavation at 50c.; setting 14,530 lin. ft. concrete curb and gutter, 50c.; steel edging when used, 25c. per ft. extra. The totals of all bids were W. S. Pace, \$60,867; Ohio Engineering Co., \$63,765; Andrews Asphalt Paving Co., \$59,091.—Clifford M. King, Chief Engineer.

Salt Lake City, Utah.—Although all the other main arteries of the city are 92 ft. in width, and although 3d South st., running east from State st., will be made that width, West 3d South st., leading directly

to the new Denver & Rio Grande station, which is expected to be one of the coming great thoroughfares, will be only 80 ft. wide. When the contract with P. J. Moran for paving this street from West Temple st. to 3d West st. came before the Council for approval Councilman L. E. Hall pointed out that a mistake was being made in narrowing the street. Only Councilman John Holley agreed with him, and the contract with the narrow street in it was approved. Some of the Councilmen agreed that the street should be a wide one, but were afraid that to readvertise would delay the work and it would not be done this year. Councilman Mark Reedall was the only one who insisted that 80 ft. was quite wide enough anyway. The contract is for \$52,073.90 for the three blocks of paving.

A contract with J. W. Mellen was approved for the grading of 4th North from East Capitol st. to Wasatch drive. Mellen is to take out the gravel and earth and put the street to grade, paying the city for the privilege of taking away the gravel a total of \$1,319.

SEWERAGE

Youngstown, O.—City will have to adopt a new plan for sewage disposal; State Board of Health has granted permission to build an outlet for the Poland ave. sewer, provided the city submits plans for a sewage disposal system by Jan. 1, 1910; at the present time all the sewage of the city is dumped into the Mahoning River; cost of purification plant, \$500,000.

Glassport, Pa.—Bids will be received July 12, 8 P.M., for construction of a 4-ft. two-ring brick sewer and a 24-in., an 18-in. and a 12-in. terra cotta sewer, including house connections to curb line on 9th st. and Indiana ave.—M. E. Randall, Borough Secretary.

BIDS RECEIVED

Ensley, Ala.—C. M. Burkhalter & Co., Birmingham, have been awarded a contract for constructing 1,830 lin. ft. 84-in. circular concrete sewer, proportions 1:2:4, thickness of shell 10 in., depth of sewer 12 to 16 ft. The total of all bids were: (a) lump sum, and (b) unit prices. C. M. Burkhalter & Co., (a) \$12,552.50, (b) \$13,242.50; R. W. Wright & Co., (a) \$15,928, (b) \$15,456; P. W. Turner, (a) \$17,032, (b) \$16,126; J. C. Long, Jr., (a) \$18,705, (b) \$16,695; Finklea & Webber, (a) \$15,999.38, (b) \$12,134.70; E. W. Wheeler & Co., (a) \$14,955.20, (b) \$14,959.50; Drury & Zuben, (a) \$15,857.60, (b) \$16,088; J. M. Mullarkeys, (b) \$16,850; E. W. Jordan & Co., (a) \$16,999.50, (b) \$14,169.50; D. S. McClain, \$20,431.90, \$15,323.90.

Newburgh, N. Y.—Contracts for the construction of four silt basins were awarded by the Sewer Committee of the City Council to Joseph Harrington, the total cost to be \$620.

The silt basins, which were all applied for recently, are to be located at the corner of Dubois and First sts., corner of Elm st. and City Terrace, and on the northeast and southeast corners of Haines Crossroad and Broadway or the "Turnpike."

Three bids were received for the work. M. S. Durkin offered to build all four for \$735. John Miller would build all four for \$730, or any one of the four for \$195. Joseph Harrington would build any one for \$170, or all four for \$620. He was given the job as the lowest bidder.

Seattle, Wash.—Bids have been received for the construction of 8,333 ft. 108-in. circular concrete and brick sewer, 13-in. shell, 20 to 60 ft. deep; 7,530 ft. 108-in. circular and concrete and brick sewer, 15-in. shell, all tunnel work, and 4,856 ft. 108-in. circular concrete sewer, open cut, as follows: Grant Smith & Co., \$767,985; Starrat & Goetz, \$555,401; James Black, Black Bros., \$678,192; Puget Sound Bridge & Dredging Co., \$723,533; Krogh & Jessen Co., \$682,059; C. J. Erickson, \$534,978; International Construction Co., \$800,967; A. H. Dimmock, Asst. City Eng.

WATER SUPPLY

Fort Collins, Col.—Bids will be received, July 16, noon, for construction of slow sand or mechanical filtration plant of 4,000,000 gals. per day.—Robert S. Fedder, City Clerk.

Jersey City, N. J.—Residents of Bayview and Jackson aves. have been clamoring recently for more water pressure; in response to this demand Street and Water Commissioner Finke has announced that a 16-in. water main will be put in to take the place of the present 8-in. water main in that locality.

Trenton, N. J.—The Board of Water Commissioners has received requests for the laying of 2,000 ft. of additional water pipe.

Liverpool, O.—Mayor Crawford has vetoed ordinance declaring it necessary to construct, install and equip a mechanical filtration plant or system for the filtration of water for the use of the city.

BIDS RECEIVED

Jersey City, N. J.—The Board of Finance has approved the proposition for a turbine pump at High Service on Summit ave. to pump Boonton water from the High Service reservoir to the highest point on the Heights, and awarded the contract to Theodore Smith Sons Co.

Piqua, O.—The Board of Public Service June 22 considered the bids of the plumbers for the laying of any new water pipes necessary on the streets which are to be paved this summer. The contract was given to J. A. Klobb at a price of \$5.33½ a foot.

LIGHTING AND POWER

Dayton, O.—The bid of the Brownell Boiler Co. on the installation of the engine and generator for lighting and power system at the water works pumping station has been recommended to the Servers by Chief Engineer Weaver and Electrical Engineer Thomassen, these engineers claiming the bid came the nearest to complying with the specifications. The bid of the William Hall Company, amounting to \$1,422, was the lowest bid.

Muskogee, Okla.—The Finance Committee has awarded Henry Vogel the contract for the reconstruction of the water power plant, his bid being \$5,550; contract calls for the completion of the work in 90 days, and Mr. Vogel will at once start the work.

ELECTRIC RAILWAYS

Camden, N. J.—Council has adopted resolution ordering the Public Service Corporation to operate trolley cars on South Fifth and South Second sts. within 30 days.

BIDS RECEIVED

Carlisle, Pa.—The Carlisle Construction Company, which has charge of the construction of the new trolley line to Newville, opened bids, June 24, for the removal of about 10,000 cu. yds. of earth from the cemetery hill, a very steep grade, about a mile east of Newville, and 4,000 cu. yds. of earth on the property owned by Mary Bear, located near Plainfield. The lowest bidder was the United Ice & Coal Co. of Harrisburg, and that company was awarded the contract for the work.

BRIDGES

Paterson, N. J.—The special committee of the Board of Trade appointed to look into the need and feasibility of a bridge to

connect the Totowa section of the city with the center of the city, has decided to recommend to the Board the construction of a bridge, one end of which is to be on Van Houten st., about where the Neuberger Braid Co.'s mill is located, while the other end is to come out on Totowa ave. at Cemetery st.

MISCELLANEOUS

Washington, D. C.—An American consular officer in the Orient furnishes the name of a man there who desires to be put in communication with American manufacturers of the most improved ice-making machinery.—Address No. 3558, Bureau of Manufactures.

Washington, D. C.—Leon E. Dessez has been selected by the Penal Commission as the architect to design the new workhouse and reformatory buildings to be erected on 1,000-acre tracts in Virginia and Maryland.

Greenfield, Mass.—Town has voted to raise \$1,500 for sprinkling streets.

Philadelphia, Pa.—Plans are being prepared under the direction of Director Neff, of the Department of Public Health and Charities, and Chief Eisenhower, of the Bureau of City Property, for a crematory, with two approved firebrick retorts, which will be erected on the grounds of the new Philadelphia Hospital for Contagious Diseases, at Second and Luzerne sts. Cost, about \$7,500.

PATENT CLAIMS

924,711. SEWER-VENT. Henry C. Williams, Milwaukee, Wis. Serial No. 439,289.

In a sewer-vent, the combination of a plate provided with an opening, said plate secured horizontally to a sidewalk, and provided with a depending flange, and with a flange extending inwardly at right angles from the depending flange, the inwardly extending flange having its inner edge threaded, a pipe connected to the main sewerage system, and having its upper end provided with threads which the threads of the inwardly extending flange of the plate are adapted to engage, whereby the plate may be turned down on the upper end of the pipe for a desired distance, to permit of said pipe extending into an opening formed in the sidewalk, a valve normally closing the upper end of the pipe, but adapted to be forced to an open position by water pressure, when the water backs up in the sewer, said valve, when normally closing the pipe, being flush or substantially flush with the upper surface of the sidewalk, rods depending from the valve, and guides adjacent to the side of the pipe, which guides the rods are adapted to slidingly fit.

925,516. GARBAGE BUCKET. Henry E. Schmidt, Philadelphia, Pa. Serial No. 401,033.

A receptacle, the upper edge of which is formed into a bead inclosing a continuous reinforcing wire, said bead being cut away for a portion of its length leaving the wire bare, in combination with a cover and a hinge formed of a plate folded upon itself to form two opposed leaves inclosing said wire at the fold and engaging with both sides of the cover and riveted thereto, the middle portion of the plate being cut, formed into a tongue extending in line with the cover and projecting out over said wire and adapted to contact with the side of the receptacle when the cover is turned into approximate line with the side of the receptacle.

925,714. ROAD ROLLER. Josiah V. Miller, Judge, Mich. Serial No. 449,648.

In a machine of the class described, the combination of a carriage, a roller attachment, a tongue connection between the carriage and attachment and reversibly connected with the latter, a draft device for the carriage, and a steering mechanism between the tongue and attachment, and mounted on the tongue, a seat on the tongue, a horizontally disposed pivot connecting the tongue with the carriage, and a vertical pivot connecting the tongue with the attachment.

925,880. GATE VALVE. William W. Doolittle, Evanston, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Serial No. 449,048.

A gate valve comprising in combination a valve body, a wedge having its lower edge formed along substantially a right line, a leather packing strip having a portion intermediate, its ends fitting around the end of the wedge, and clamping means for securing the ends of the strip to the wedge.

925,970. GARBAGE AND RENDERING APPARATUS. Charles S. Wheelwright, Bristol, R. I. Serial No. 454,904.

The combination with a digester having a discharge opening at the lower end, of supplemental means within said digester movable to and from the discharge opening and adapted to act on material clogging

said opening to push said material through said opening, and actuating devices without said digester adapted to operate said means within said digester.

925,971. PROCESS OF EXTRACTING GREASE AND OIL FROM GARBAGE. Charles S. Wheelwright, Bristol, R. I. Serial No. 455,978.

The herein described process of extracting grease and oil from materials, the same consisting in continuously saturating the material with hot water and draining the hot water therefrom, continuously forcing the material so saturated and drained into a cooking vessel while said cooking vessel is under steam pressure, continuously adding hot water to said material in said cooking vessel and continuously cooking the material under said steam pressure, continuously removing the material in a cooked condition and oil and water therewith from said cooking vessel, and separating the oil and water from the material and the oil from the water.

926,034. BRIDGE. Oscar Thomas, Grünberg, Silesia, Germany. Serial No. 476,744.

In a bridge structure, the combination with a cable, of a stepped roller, an anchor chain or cable secured to the roller and a counterweight chain or cable secured in the roller.

926,062. PAVING BLOCK. William Hanley, Bradford, Pa. Serial No. 476,945.

A paving brick having projections on one of its sides and depressions on the opposite side thereof, said projections being of greater length and less width than the depressions whereby contact is permitted between the end of the projections and the bottom of the depressions of adjacent blocks, the difference in width allowing for contraction and expansion and irregularities in manufacture, substantially as described.

INCORPORATIONS

Alton Light Manufacturing Co., Delaware; capital, \$300,000. Incorporators: E. J. Forhan, H. M. Browne and J. J. Harper, 154 Nassau st., New York.

Bartlesville Light & Power Co., Bartlesville, Okla.; capital, \$200,000. Incorporators: L. A. Rowand, S. J. Smallwood and R. L. Beattie.

Diamond Spring Water Co., 81 Speedwell ave., Morristown, N. J.; operate water works, real estate, etc.; capital, \$5,000. Incorporators: James W. Pierson, Morristown, N. J.; George Donaldson, Edgewater, N. J.; Franklin C. Lewis, 33 Central Park West, New York; William Hoppage, Springfield, N. J.

Dixie Concrete Co., Greenville, S. C.; organized for concrete work; will make specialty of paving. Incorporators: E. G. Mallard, president and treasurer; M. L. Jubin, vice-president and secretary; C. F. Brown, general manager of construction.

East Coast Equipment and Construction Company, New York; general contractors; capital, \$50,000. Incorporators: Leo W. Wertheimer and Edwin C. Mulligan, 135 Broadway; Fred Cook, 192 Broadway, both of New York.

Fite-Fire Company, 117 Green st., Newark, N. J.; manufacturing fire extinguishers, etc.; capital, \$10,000. Incorporators: Henry W. Landau and Eleanor A. Landau, 23 Eppert st., East Orange, N. J.; Albert C. Pedrick, 763 Broad st., Newark, N. J.

Fort Smith Crushed Stone Company, Fort Smith, Ark.; capital, \$25,000. Incorporators: Horace F. Rogers, D. D. Young, H. Lee Rogers and Ralph Machen.

Hill-Hupfel Engineering Co., New York, N. Y.; consulting engineers, design and build steam turbines, gas engines, etc.; capital, \$200,000. Incorporators: Halbert P. Hill, 609 West 137th st.; Otto G. Hupfel, 856 Eagle ave.; Carl E. Whitney, 390 Central Park West, all of New York.

Lily White Cement Company, Phillipsburg, N. J.; manufacturing portland cement, etc.; capital, \$300,000. Incorporators: W. Elwood Snyder and Reuben F. Mesinger, Nazareth, Pa.; Thomas D. Danner, Easton, Pa.; Osiris D. McConnell, Phillipsburg, N. J.

Norman Contracting Company, Brooklyn, N. Y.; contracting, trucking, etc.; capital, \$10,000. Incorporators: William C. Russell, Annie E. Russell, Alexander J. Russell and William L. Russell, Jr., 100 Norman ave., Brooklyn.

Saline County Light & Water Co., Harrisburg, Ill.; operate light, water and power plants; capital, \$5,000. Incorporators: George W. Burton, Peoria, Ill., and others.

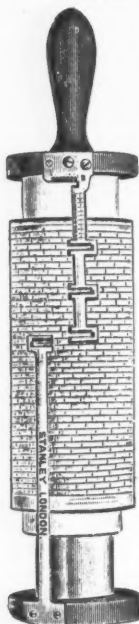
Security Electric & Construction Co., Augusta, Me.; mechanical and electrical machines; capital, \$1,000,000. Incorporators: E. M. Leavitt Winthrop, President and Treasurer; L. A. Burleigh, Clerk, Augusta.

Sterling & Rock Falls Water Co., Chicago, Ill.; construct and operate a system of water works; capital, \$1,000. Incorporators: John J. McLaughlin, Roanoke Building, Chicago, and others.

MUNICIPAL APPLIANCES

A New Slide Rule

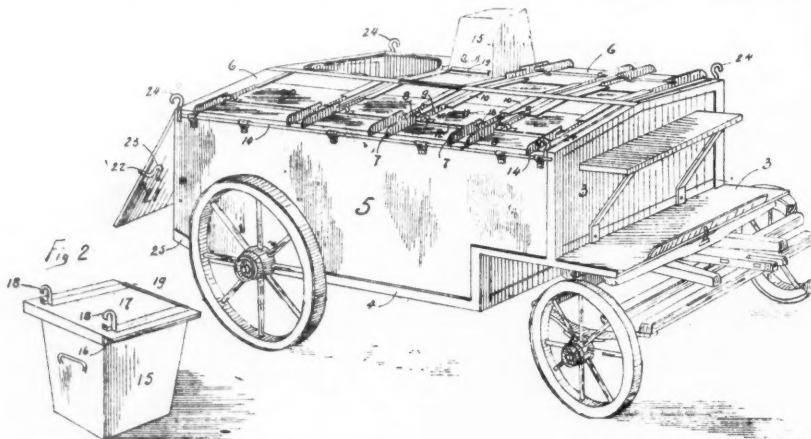
THE illustration shows the new co-ordinate spiral slide rule which has been introduced by Messrs. W. F. Stanley & Company, Great Turnstile, Holborn, W. C., England. This latest development of the slide rule is the invention of H. O. Barnard, Superintendent, Trigonometrical Surveys, Ceylon Survey Department. Mr. Barnard's rule enables the user to perform with speed and accuracy arithmetical computations involving multiplication, division, proportion, continuous fractions, powers, roots and logarithms. In addition to these, however, the natural and logarithmic values of trigonometrical functions of any angle can be determined by inspection with the same accuracy as in numerical computation, while the products, quotients, etc., of these functions by lengths or numbers, integral or fractional, are obtained with equal ease, rapidity and precision. The scope of the



Barnard rule's operations may be gathered from the examples given to illustrate its use in a booklet issued by Messrs. W. F. Stanley & Co. Although the co-ordinate spiral rule, like all varieties of slide rules, is based primarily upon the theory of logarithms, a knowledge of that theory is by no means essential to its practical use. The slide rule has of recent years been very widely adopted by professional men dealing largely, or even occasionally only, with figures, and as a time and labor saving machine it occupies a unique position. Only a few weeks' practice on the part of the novice is necessary for the recognition of its enormous value and of the pleasure involved in performing what were previously laborious computations and problems.

Gull Odorless Garbage Wagon

A WAGON for collecting garbage has been invented by Mr. Albert Gull, of Pittsburg, Pa., which is especially designed to prevent either wagon or collector from being soiled and the air from receiving offensive odors.



GULL ODORLESS GARBAGE CAN AND WAGON

Fig. 1 is a perspective view of the garbage wagon.

Fig. 2 is a view of the garbage can. The running gear, consisting of a front and rear truck (3), supports a rectangular frame (4), on which is a detachable wagon bed (5), preferably constructed of light and durable metal, although wood may be used.

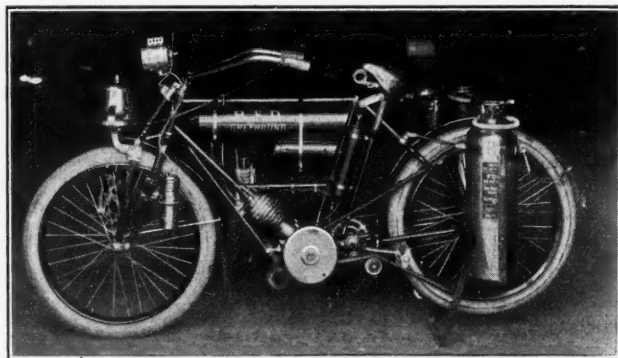
The wagon bed has inclined top plates (6, 6), which are provided with a number of longitudinal openings. Upon the sides of the openings are arranged guide ways (7, 7), which have vertical flanges, which are cut away to form slots (8, 8) and rails (9, 9). The rear ends of the vertical flanges are bent over to form horizontal flanges (10, 10). Sliding between each set of guide ways (7, 7) is a closer plate (11) adapted to close the opening between the guide ways. The forward edge of the closure plate is bent upwardly to form a transverse lip (12), while the side edges of the closure plate are provided with outwardly extending lugs (13, 13) adapted to slide upon the rails of the guide ways, and, when the closure plate is closed to engage in the slots (8, 8) of side guide ways. The closure plate is retained between the guide ways by the horizontal flanges (10, 10) between which the said plate slides. The sides of the body (5) of the wagon are provided with longitudinal rods (14, 14).

In connection with the wagon a special garbage can (15) is used. Two opposite edges of the can are provided with flanges (16, 16), on which slides a lid (17) adapted to close the can, the top of the lid being provided with upwardly extending cleats (18, 18). The top edge of the lid opposing the cleats (18) is provided with a hook-shaped flange (19), the object of which will be presently described. The cans are distributed in residences for holding of garbage. The can is so constructed that the lid has always to remain shut, so preventing the odors of the garbage from escaping.

In transferring the contents of a can to the wagon the operator of the wagon places the cleats (18, 18) of the lid of the can in engagement with one of the rods (14) and tilts the can over to an inverted position upon the top plate of the wagon. When in this position the hook-shaped flange (19) of the can en-

gages over the flange (12) of the closure plate (11), which normally closes one of the openings of the wagon. To discharge the contents of the can into the compartment the can is now pushed forward, opening the closure plate (11) while the lid (17) of the can is being held stationary by the cleats (18, 18) of said lid, engaging one of the rods (14). This operation brings the open can directly above one of the openings of the wagon and permits the contents of the can dropping into the wagon. The can is now pulled back to the original position, thus closing the can and the wagon at the same time. One of the lids (20) is shown as being larger than the rest to cover a larger opening.

The wagon is provided at the rear end with a swinging door (21), which is closed by means of a rod (22) and hook (23). The emptying of the wagon can be effected in several different ways. In the drawing the body of the wagon is shown provided with hooks (24) by which it is lifted from the frame and tilted to a slanting position, the door being opened by means of the rod (22). The bottom of the rear end (25) of the wagon bed (5) is bent up to hold moisture which collects.




GREYHOUND FIRE MOTOR CYCLE

Motorcycle Fire Apparatus

THE Auto-bi Company, 1457 Niagara street, Buffalo, N. Y., manufacturer of Greyhound motorcycles, has placed on the market a machine equipped as a fire fighter. The motorcycle carries two "Ever Ready" chemical fire extinguishers, which, as shown in the illustration, are mounted on spring brackets on each side of the rear wheel in such a way as to be released by throwing a cam lever, enabling the operator to remove them instantly. At the fire house the motorcycle rests in an automatic stand which takes care of itself when the machine is pushed off, and an alarm bell is sounded for the purpose of warning traffic. The "Greyhound" is equipped with one cylinder, of three horsepower, $3\frac{1}{4} \times 3\frac{1}{4}$ bore and stroke; the inlet valve is automatic, the carburetor is Auto-bi; the transmission by belt or shaft; the gear is standard 5 to 1; the wheelbase 56 inches and the weight of the machine 140 pounds.

For several weeks past a man and machine of this description have been stationed at Chemical No. 5 house, on Cleveland avenue, Buffalo, N. Y., responding not only to alarms from the district covered by chemical No. 5, but to many others. In most cases, irrespective of distance, the motorcycle fire apparatus has arrived before the department apparatus, and in several instances the fireman has extinguished the fire before any other apparatus got into action. The machine will be continued in service by the city.



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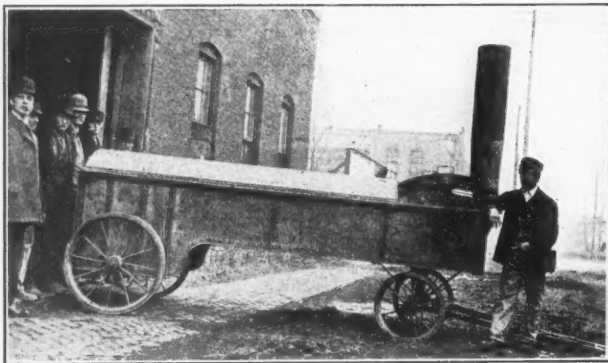
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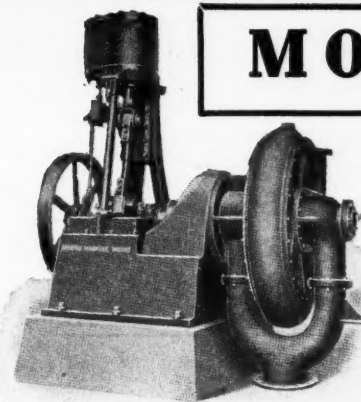
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Hopkins, Minn.



This plant consumed 18 tons of garbage in 15 hours. Made by the Decarie Co., for Stockton, Cal.

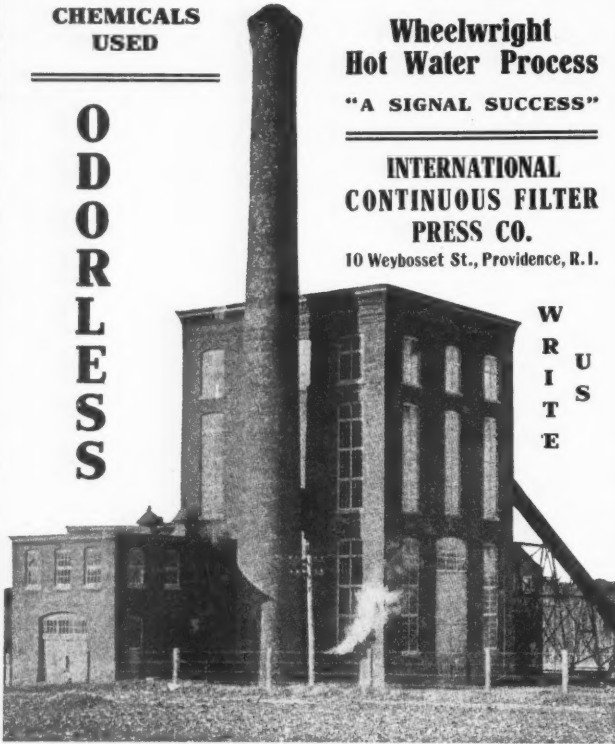
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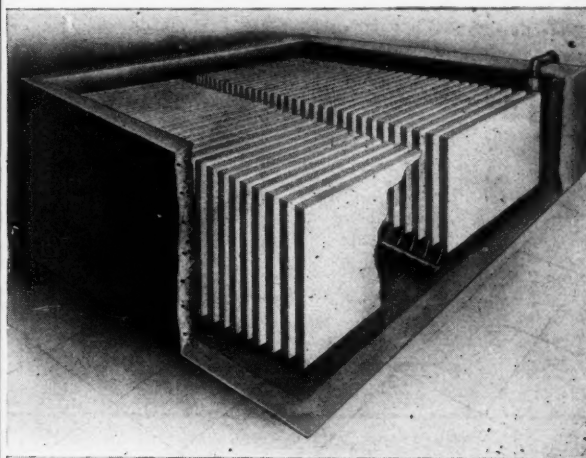
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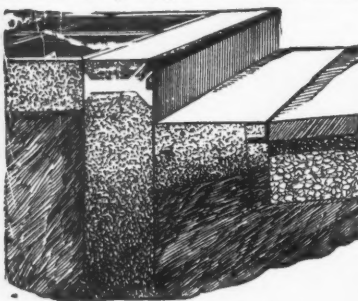
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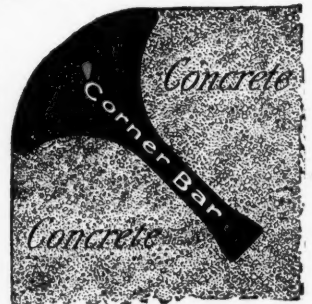
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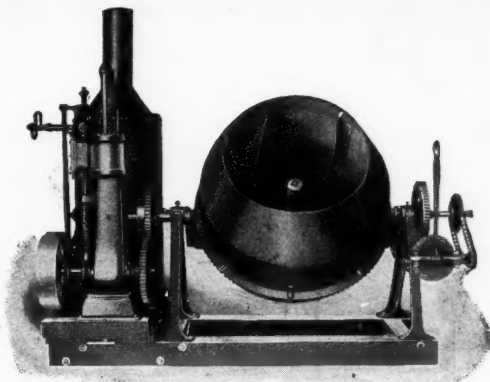
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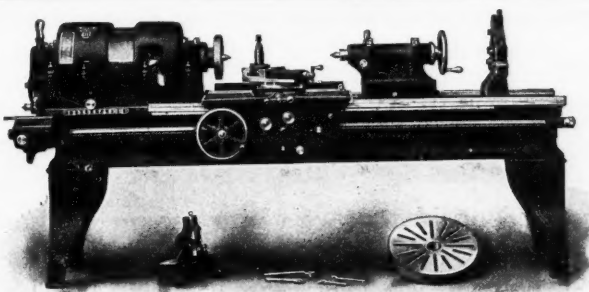
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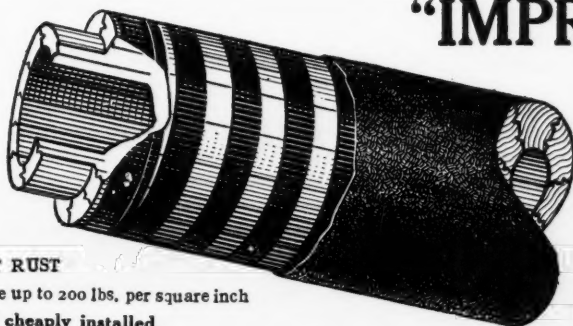
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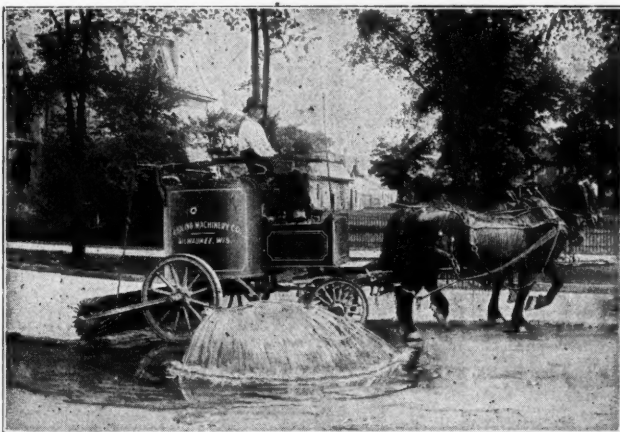
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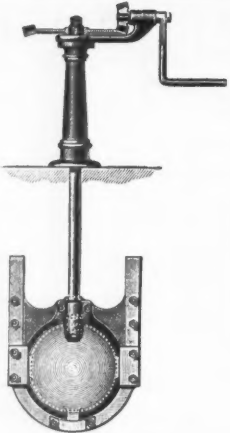


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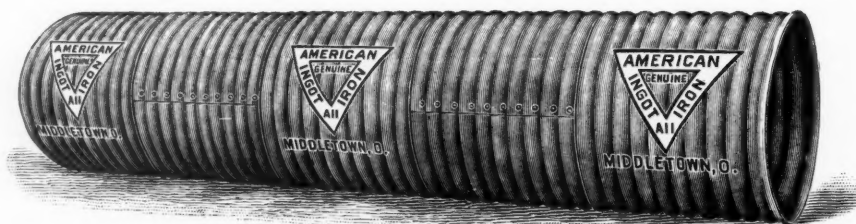
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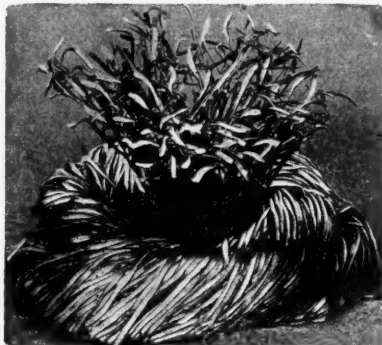
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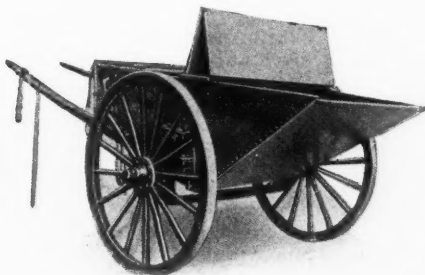
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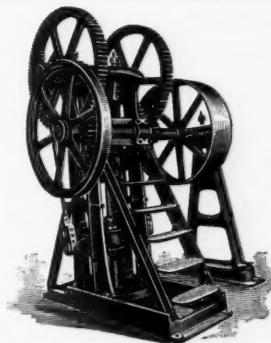
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Pumps

It is easier to pump water in a steady stream than by jerks. No power is killed overcoming the inertia of a solid column of water.

Also, to balance two equal lines of Sucker Rods the crosshead takes the weight of both off the power.

Our patented conical brass valves, three to a pump, have a port area equal to diameter of barrel, without which a solid, continuous water column would be impossible. Self-grinding and everlasting. Catalog No. 6.

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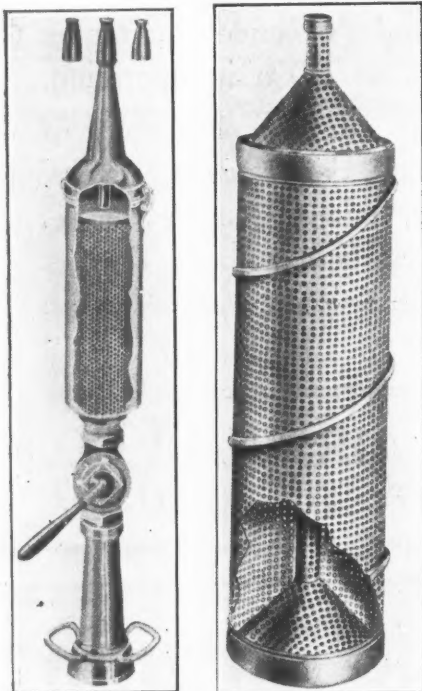
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THE Sieben Chemical Nozzle Company, Kansas City, Mo., manufactures a nozzle which imparts to water drawn from an ordinary hydrant a gas which has fire extinguishing properties, so that an ordinary stream of water becomes as effective in the same way as the stream from a chemical engine. This is accomplished by a device which is inserted in the specially shaped nozzle and contains a chemical cartridge of sulphuric acid and bicarbonate of soda in a dry form. When the water strikes the cartridge carbonic acid is evolved, the stream becomes charged and is thrown on the fire as a chemical stream. As shown in the il-



Nozzle Complete

Cartridge Case

SIEBEN CHEMICAL NOZZLE

lustrations, the nozzle is enlarged, to contain the chemical cartridge—the size for use with a 2½-inch hose being 4 inches in diameter and 16 inches long. The cartridge consists of a perforated cylinder, having sufficient space between its walls and those of the nozzle to permit a full-sized stream to pass. The manufacturers allow one cartridge to 290 gallons of water. A new charge can be placed in the nozzle in a few seconds. There is nothing about the apparatus that can freeze, so there is no trouble on that account in winter. During the past year this apparatus has been demonstrated in a number of cities.

Identification Filing Cabinets

YOWMAN & ERBE MFG. CO., Rochester, N. Y., manufacturers of office furniture and filing cabinets, make special cabinets and appliances for the use of the criminal identification bureaus of police departments covering both the Bertillon and the finger print systems. The outfit for the Bertillon system includes boards and charts for measuring, camera screens, charts and cabinets containing record and index cards. The outfit for the finger print system consists of filing cabinets for the finger print records specially arranged for quick reference, rack cabinets for photographs and standard reversible metallic albums.

TRADE NOTES

Cast-Iron Pipe.—Chicago: Pipe founders believe the expansion of building operations in cities will result in considerable extension of water works later in the season. Quotations: 4-inch, \$27.50; 6 to 12-inch, \$26.50; 16-inch and up, \$25.50.

Lead.—The market is dull but firm at 4.35c. St. Louis market is weak at 4.20c.

Natural Gas Project.—The St. Louis syndicate which has bought control of the Laclede Gas Light Company from the North American Company paid \$101.08 for 74,000 out of 85,000 common shares. The syndicate owns 240,000 acres in Louisiana, and has a franchise to supply New Orleans with natural gas from these fields. One of the questions to be decided will be the bringing of this gas to St. Louis, at a cost of about \$8,000,000. According to capitalists of that city, there is no reason why Memphis, St. Louis and all intermediate cities in the Mississippi Valley may not share in a lighting and heating project.

U. S. Cast-Iron Pipe Report.—Net earnings of the United States Cast-Iron Pipe and Foundry Company for the year ended May 31 were \$184,731, against \$684,275 in the previous year and \$2,022,051 for the fiscal year ended May 31, 1907. G. B. Hayes, president of the company, says in his report that all profits shown for the last fiscal year were made in the closing three months. The balance for the year was \$156,949, but by transferring \$209,897 from reserves for working capital it was possible to declare a dividend of three-fourths of 1 per cent, amounting to \$218,750, on the preferred stock, and leave a profit and loss balance of \$164,120. This dividend was originally payable September 1, 1908, but the distribution was enjoined by the New Jersey Court of Chancery. It was announced that the declaration has been declared valid by the Court of Errors and Appeals and payment will accordingly be made on July 2. At the annual stockholders' meeting retiring directors were re-elected.

Mechanical Rubber Goods.—The Diamond Rubber Company, Akron, O., manufactures rubber goods under the following brands: Diamond, Python, Titan, Sphinx, Gulf, Moose and Clipper. Belting is one of the chief manufactures of rubber, and includes several specialties used by contractors for public work, such as the belting used in grading machines and belt conveyors generally. Among the various kinds of hose a special brand is made for use with chemical engines and fire extinguishers. Diamond fire hose is made of best hard rubber, with duck manufactured according to the company's specifications. Both ends of every section are reinforced, and it weighs 60 pounds per section covered. Cotton double jacket fire hose is manufactured for fire department use, the highest grade being the Titan brand. Packing of all kinds is made by the Diamond company; their rubber back packing is made of exceptionally heavy duck; it is manufactured in sizes from ¼ inch up. Their pump or hydraulic packing is made of fine, tightly woven high-grade duck and moisture resisting rubber friction, in Titan, Sphinx and Gulf brands. Valve balls are another specialty, and are made in sizes ranging from 1 inch to 8 inches. Valve discs come in sizes from ¼ inch to 8 inches.

Gas and Electric Merger.—Articles of incorporation have been filed at Los Angeles, Cal., for a \$30,000,000 gas and electric company, which is designed to control all the gas and lighting plants in Southern California. It will be known as the Los Angeles Gas and Electric Corporation. W. B. Cline, of the Los Angeles Gas and Electric Company, is president of the new concern.

Gas-Electric Car.—The General Electric Company, Schenectady, N. Y., exhibited at Atlantic City during the meeting of the Master Mechanics and Master Car Builders' Association a gas-electric car which it is prophesied by railroad men will revolutionize railroading on short lines, this type of car being designed to take the place of a steam engine and train for such short line work. The car is about forty feet long, of steel construction, and the ends parabolic in shape, in order to reduce the air resistance to a minimum when traveling at high speed. It very easily made sixty miles an hour on the more favorable stretches of track. The car will carry about sixty passengers, seating that number in comfort, besides the usual amount of baggage, express and mail. In the forward end of the car is located the motive power, which consists of one of the most powerful gas engines of its weight in the world, driving a powerful little dynamo of 125 horsepower capacity. The current from this dynamo is carried to the motors geared to the forward truck which drive the car. The car is controlled similar to a large interurban trolley car. With the controller handles it can be quickly started, stopped, accelerated or reversed, giving a great flexibility of control. The entrance to the passenger apartment is in the middle, with the seats forming a sort of observation compartment in the rear.

Pipe Forcing Jack.—The Duff Mfg. Co., N. S. Pittsburg, Pa., has placed on the market a device for forcing or pulling pipe horizontally through the ground. This apparatus is known as a pipe forcing jack, and has been used very successfully by a number of gas companies and plumbers for the past year. It has been designed for one purpose only, that of placing pipe under ground without digging a trench for it. Particularly its use is of value for laying service lines under cement sidewalks, lawns and under railroad tracks. By digging a ditch long enough to take the jack and start the first length of pipe, it is possible to lay almost any length of service pipe. The jack is capable of driving pipe up to 4 inches in diameter, and as great a length as 280 feet of 2½-inch pipe has been forced through the ground by it. The jack consists of a cage which travels on a rack and is moved by a socket lever and pawls. At the front of the cage is a groove and clamps for holding pipe from ¾ to 4 inches in diameter. The rack has machine-cut teeth and is provided with bolts with which it is secured to a stout plank. It also carries guides for holding the pipe in line. The parts are malleable iron and steel and the construction is substantial.

Announcement.—The Phoenix Iron Works Company, Meadville, Pa., manufacturer of high-grade automatic cut-off engines, boilers, feed water heaters, etc., announces that it will open offices July 1 in the Trinity Building, New York City, and the Lafayette Building, Philadelphia, Pa., Charles H. Bradley, Jr., and Albert C. Case, district sales managers.

THE SESSIONS FOUNDRY CO.

BRISTOL, Conn.
LOW PRICES



SEWER AND SUBWAY MANHOLE CASTINGS
SEWER CATCH-BASIN CASTINGS, ETC., TO ORDER
Prompt Shipments. Deliver at any Point. Write us for Prices.

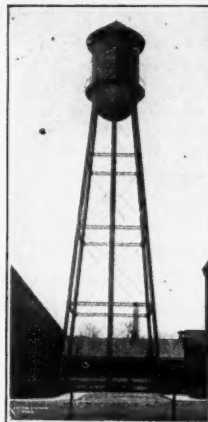
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These are our specialties.
We build them of all practical sizes and capacities.

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New Jersey

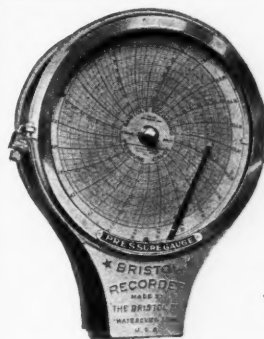


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The A. L. Barber Asphalt Co.

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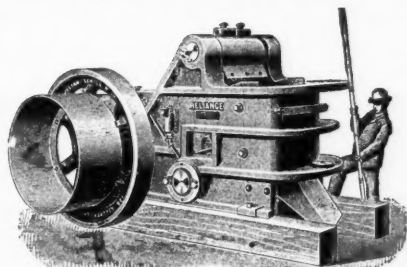
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For all Commercial Ranges of
Pressure and Vacuum.

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12 x 24 Reliance Crushers



Were used by
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Other sizes:
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They are healthy, noiseless and wear well under all
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We also make Wyckoff Creosoted Wood Conduit, Creosoted
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Wyckoff Pipe & Creosoting Co., Inc.

Works, Portsmouth, Va. 50 Church St., New York

PROPOSALS

FILTRATION PLANT

Fort Collins, Colorado.
June 23, 1909.

Sealed proposals will be received at the office of the Clerk of the City of Fort Collins, Colorado, for the construction of a filtration plant in connection with the City Water Works System, up to noon on the 16th day of July, 1909.

Bids are requested on both slow sand filters and mechanical filters on a capacity of four million (4,000,000) gallons per day. The bidders are required to furnish complete and detailed plans and specifications for the construction of the work.

The successful bidder on the above work will be required to furnish a surety company bond in an amount to be determined by the City Council, to insure compliance with the contract, and satisfactory performance for a period of one year after date of completion.

Details as to physical conditions and location may be obtained from the City Clerk, but in order to submit fully detailed plans and specifications an examination on the ground will be necessary.

A certified check in the sum of five hundred (\$500) dollars payable to the Treasurer of the City of Fort Collins to insure good faith is required of all bidders. All bids shall be on a cash basis of payment for the work when completed and accepted by the City Engineer and Council of said city.

The right to reject any and all bids is reserved.

ROBERT S. FEDDER,
City Clerk.
(26-1)

BRIDGE

Bluffton, Ind.
The Commissioners of Wells County, Indiana, until 2 o'clock P.M. on Monday, July 5, 1909, at which hour sealed bids will be opened, will receive sealed bids for the construction of a new plate girder, double, 75-ft. span bridge across the Salamonie River in Jackson Township.

By order of the Board of Commissioners.
AUDITOR.

CONDUIT

Toronto, Canada.
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Notice to Contractors

Office of Chief Engineer,
Street and Sewer Commission,
Dover, Delaware.
June 26, 1909.

Sealed bids or proposals addressed to William H. Walker, President of the Street and Sewer Commission of the Town of Dover, endorsed "Proposals for Street Paving, Sewers, Curbing, etc.," with the name of the person, persons or corporation making the bid and the date of its submission written on the outside of the envelope containing the proposal, will be received by the Street and Sewer Commission of the Town of Dover until 8 P.M. on Monday, July 12, 1909, at the office of the Board of Trade of the Town of Dover in the Pricilla Block at Dover, Delaware.

Bids are invited upon repressed vitrified shale blocks, on sheet asphalt, and for bitulithic pavement laid under the patents of Warren Brothers Company, trunk sewers, curbing and gutters.

No proposal will be considered unless accompanied by a certified cheque upon a national or state bank or trust company, drawn to the order of Cecil C. Fulton, treasurer, for the sum of five thousand (\$5,000) dollars, said certified cheque to be attached to the outside of the envelope containing the proposal.

No proposal will be received or considered unless there shall be attached to the outside of the envelope containing the proposal the Chief Engineer's receipt for samples filed in strict accordance with the requirements of the specifications.

No proposal will be received or considered if it contains or has attached thereto any conditions, provisos, omissions, alterations or additions not called for in the specifications and bidding blanks, nor will any proposal be considered that does not contain a unit price bid on each and every item stipulated in the proposal blank.

No proposal will be received or considered unless the bidder furnishes to the Commission, to its satisfaction, evidence that he has successfully constructed work of each character specified, and that he is fully prepared with the necessary capital, materials, machinery, equipment and license to construct the work to be contracted for, and to enable him to begin it promptly when ordered to do so and to rapidly complete it.

Surety company bond will be required in the sum of one-fourth of the contract price of the entire work, said bond to cover surety for the faithful performance of the contract, and also for indemnification of the Town of Dover for infringements of patents, and also for the maintenance of said work as required by the specifications.

Blank forms of proposal, notice to contractors, contract, plans, specifications, and further information can be obtained upon application in person at the office of the Chief Engineer, and upon depositing with him the sum of \$25, \$10 of which will be returned when plans and specifications are surrendered to the Chief Engineer in a condition satisfactory to him on the day of the letting.

The right is reserved to reject any or all bids.

WILLIAM H. WALKER,
President,

WILLIAM DENNEY,
WALTER MORRIS,
THOMAS MUNCEY,
CECIL FULTON,

Secretary and Treasurer,
Street and Sewer Commission of Town of Dover.
GEORGE L. WATSON,
Chief Engineer.
(26-1)

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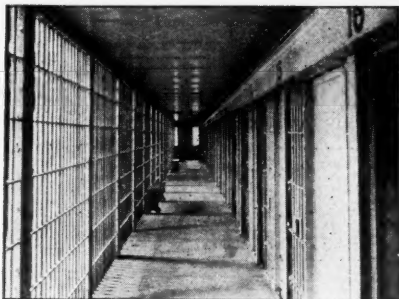
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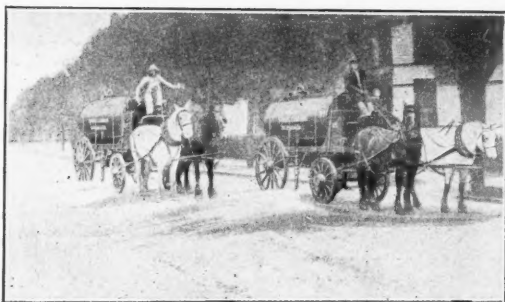
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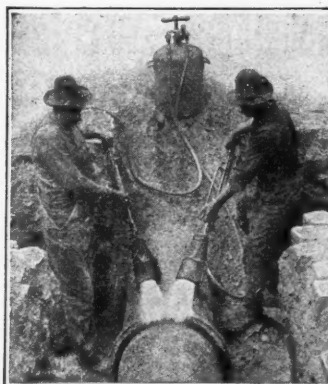
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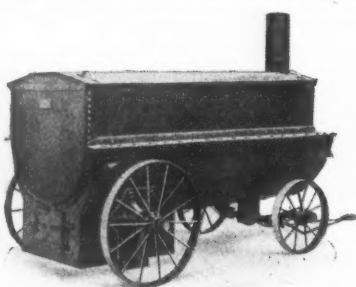
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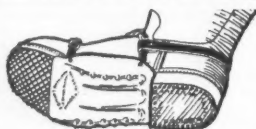
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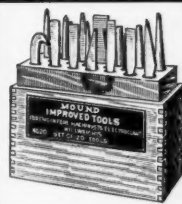
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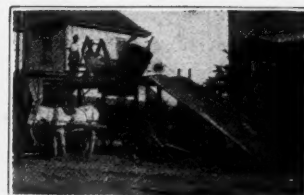
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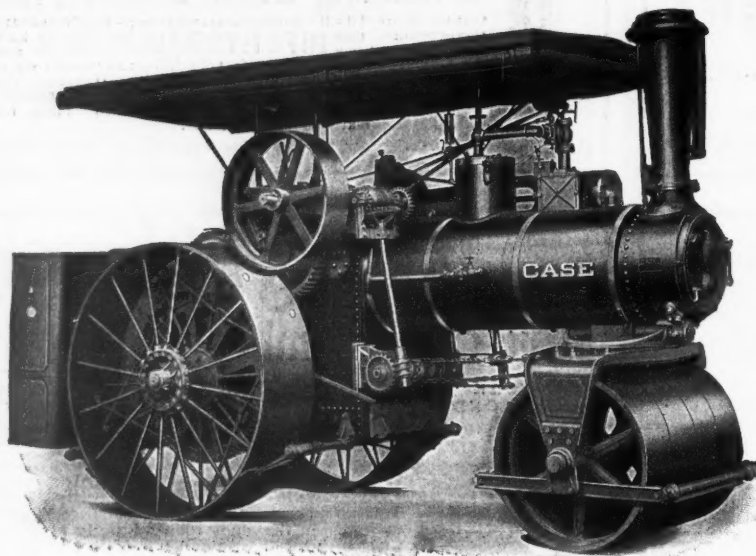
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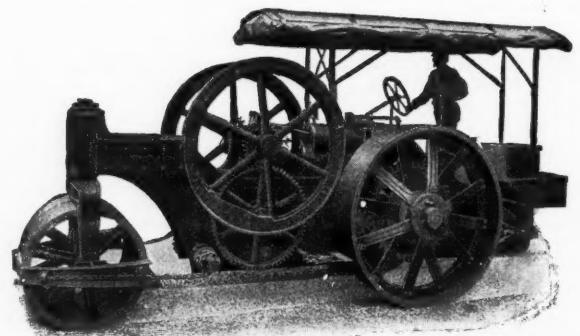
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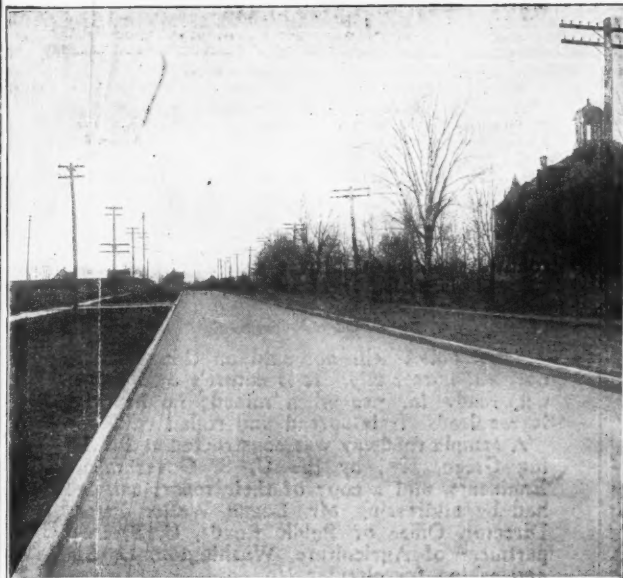
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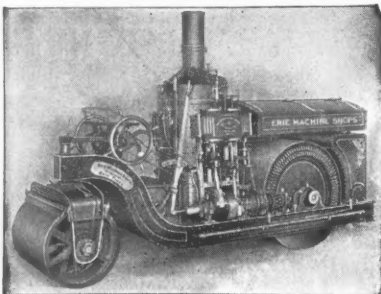
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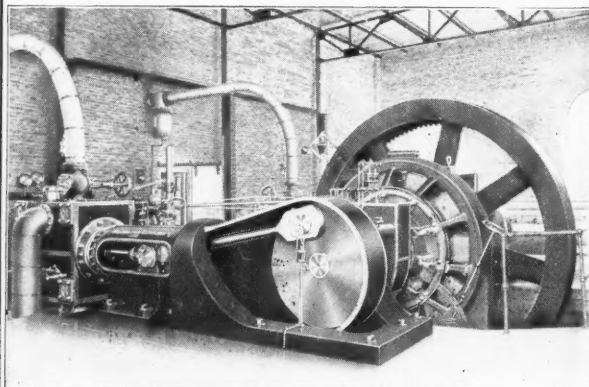
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